American MILK REVIEW

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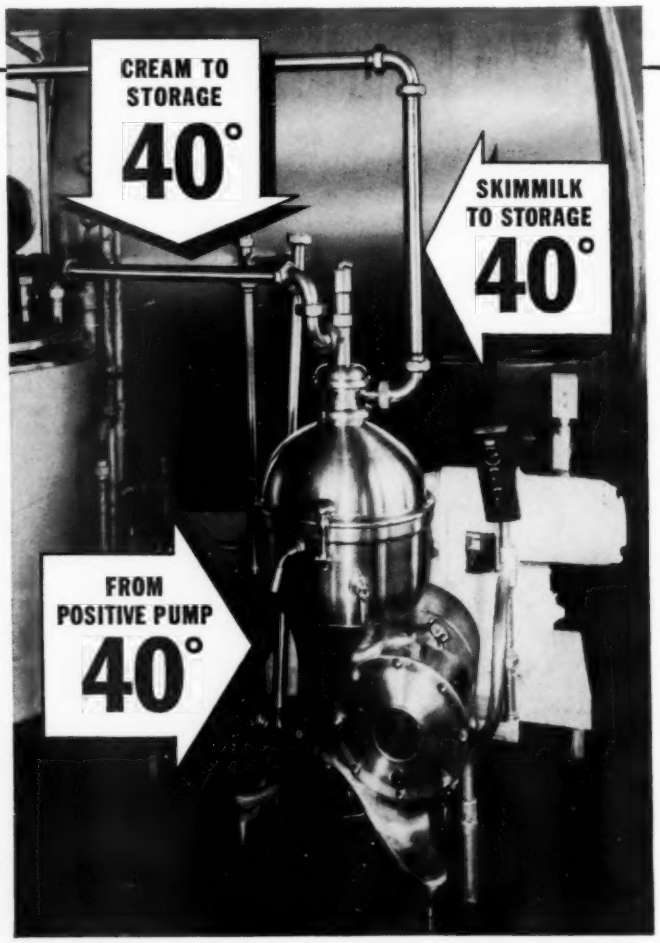

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There must be many accountants, myself among them, says Mr. Kluger, who have been asked often times very indignantly, "You say my profits amounted to so much and so much last month. That's fine, but where are they? I don't have any more money in the bank. I haven't spent my profits in riotous living. Where is all this money you say I'm making?"

In this article WHAT HAPPENS TO THE PROFITS, Mr. Kluger gives you the answer.

WHAT HAPPENS TO THE PROFITS?

By **M. J. KLUGER**

Partner, Kapleau, Kluger and Company

WE ARE ALL familiar through newspaper stories, and a lot of us through personal experience, with the impact business profits have on our economy. We are familiar, too, with the demands of labor for more and more wages, the demands of government for higher taxes, lower prices, and sometimes for subsidies to maintain profit levels but at the same time to hold down prices. We are familiar with the arguments, pro and con, of the interested groups in management, labor, the public and the government. The arguments, of course, mostly revolve around the question of whether profits are too high or too low, or just right, and the viewpoint one takes depends on just what group one belongs to. As consumers, we want lower prices, and we feel, rightly or wrongly, that some of the people we buy from are enjoying profits that are too high. As producers, processors or manufacturers, sellers in other words, we feel, in turn, that our profits are too low, or in any event, certainly not too high, and we feel that we cannot reduce our prices unless our costs are reduced too. Hundreds of thousands of words have been written in an attempt to prove one side of the question or the other, but the arguments still go on, undecided. The differences in viewpoints, however, are healthy differences, and we certainly all hope the arguments will continue and be undecided indefinitely, for only so can we maintain our economy the way we all like it.

As individual business enterprises, however, we want to know just how our own affairs shape up, profitwise. We are vitally concerned in how we put our profits to use, and how we may keep on being profitable, and, to the extent we can estimate it, how we are going to do in the future. Which brings us to the question, what happens to the profits? Anyone in any kind of business venture attempts to measure at some time or another what his profits are. Today, most enlightened businessmen attempt to measure their profits at regular intervals: monthly, quarterly, semi-annually, or even yearly. It is pretty much acknowledged that the shorter the interval, the better chance to correct things. It is pretty much acknowledged, too, that the best way yet devised to measure profits, at whatever interval, is by means of the accounting Profit and Loss Statement. As most business men know, this type of financial statement attempts to match sales and other income in any given period with the expenses in that same period. These expenses had to be incurred in order to make sales and earn income. It is fairly obvious, then, that the excess of sales and other income over all expenses is the amount of profit enjoyed in the period under review. It is this type of profit measuring statement that practically all enterprises prepare or have prepared for them a certain intervals, and by means of which enterprise progress is determined.

Where Is All This Money?

For far too many enterprises, however, it stops there. And only half the picture shows up and only half the story is told. There must be many accountants, myself among them, who have been asked, sometimes very indignantly, "You say my profits amounted to so much and so much last month. That's fine, but where are they? I don't have any more money in the bank. I haven't spent my profits in riotous living. I still just about keep one jump ahead of my creditors. Where is all this money you say I'm making?" The reason for the question, especially among the smaller business enterprises, and most especially among milk dealers, who are usually never too oversupplied with operating or working capital, is that "profits" are too often confused, with cash-in-the-bank. Most emphatically that is not what profits are. Somebody once defined a business profit as the adjusted increase in net worth of a business entity for the period under review. Although considerably oversimplified, the definition is not too bad. Certainly, if the concern keeps no books and records, or very poor, uninformative ones, the Bureau of Internal Revenue will use just that method of determining changes in net worth to compute profits for a period, and hence income tax. Thus, profits can

be measured without preparation of a profit and loss statement at all. They can be measured by inventorying all assets and all liabilities at both ends of a given period. The increase in net worth or net assets, from beginning to end of a period, minus any additional capital investment by the owners, and plus any withdrawals by the owners, will be a fair measure of the profits earned during the period. But after profits for a period are determined, either by matching income against expense, as in a profit and loss statement, or by inventorying assets and liabilities at both ends of a period and adjusting for capital inputs and withdrawals (both methods will yield the same result), the question still remains, what happened to the profits?

Now, in ordinary circumstances, profits can be disposed of in only three ways: they can be withdrawn by the owners of the business, they can be re-invested in the business in one form or another, they can be, in the case of corporations, paid out as income taxes. As a matter of fact, all three usually happen. A portion of profits is taken out by the owners.

"The most important source of funds is NET PROFITS without which no business can operate for long."

Another portion is re-invested, and certainly, before either is done, income taxes must be paid. Our problem is to measure, as accurately as possible, just what went where.

To start, we must first employ a new term, one which is not ordinarily found, as such, in balance sheets and profit and loss statements. This term is "funds". We may define the term broadly as "those assets which are readily, and which will ordinarily be, converted to cash in the normal course of business, including cash itself." The commonest forms of funds are cash itself, inventories, notes, and accounts receivable. By stretching the definition a bit, items such as prepaid insurance, prepaid taxes, and the like are sometimes included as funds, the theory being that, although such prepaid expenses will not really be converted into cash, their very prepayment required cash funds that will not now be required for the period of prepayment. As an example of a not-so-common form of funds, there are certain investments such as savings bonds. Whether such investments are funds or not depends entirely on individual circumstances. If the bonds, for instance, were purchased merely to utilize some surplus cash, and will probably be turned back into cash in the near future, their value represents funds. If the bonds or other investments represent long-term investments, held for their earning power, they are not funds, even though they may be readily converted into cash. The two elements must be present: ready convertibility, and immediate expectancy of conversion in the ordinary course of business. Let us consider now where the funds necessary to operate come from, that is, the sources of funds.

Owners First Source of Funds

The first source, in starting a new business, is the owners, be they individual proprietors, partners, or stockholders. Even after a business is well established, it may call upon its owners for additional funds for one reason or another. The second source of funds, and the most important source, is NET PROFITS, without which no business can continue to operate for long. A third source, and a common one, is credit. Everytime something is purchased for credit, either open account or note, funds are supplied to the business. These three are the most common, recurring sources of funds. Every business, however, picks up funds in various miscellaneous ways. For example, an obsolete piece of equipment may be sold. The selling price, be it cash or account receivable, is funds. A tax rebate is funds. Investments in securities, even though the securities themselves may not represent funds, sometimes yield an income in the form of interest or dividends. Those investments, therefore, although not funds in themselves, may nevertheless be a source of funds. In like manner, anything of any kind which brings funds into a business is a "source of funds".

In a going concern, funds are never stagnant. They are constantly being received from many sources, and are just as constantly being used up or "applied". This term "applied" merely means used, or spent, or, at least, put somewhere except in the bank. Now, how are funds applied? The purpose of entering business, of course, is to earn a profit, which is funds, so that those profit funds may be "applied" or paid out to the owners of the business. Before the owners may take out profits, however, funds must be applied to many other things. Also, about the only kind of funds the owners may take out of a business is cash. Even though accounts receivable are funds, the owners can't distribute accounts receivable to themselves very well until the customers pay up. Inventories are funds too, but the owners don't want to pay themselves in inventories, naturally, they want cash, which is only one form of funds. Before the owners can take any cash, though, creditors want to be paid. We said that creditors are a source of funds when credit is granted. But the bills must be paid, and in paying creditors, funds are used or applied. In the case of corporations, Uncle Sam wants his share of profits before anyone else gets anything (he wants his share of mostly any kind of income of course, corporate or otherwise, but income taxes paid by individuals or partners are considered as purely personal matters, and of no concern to the taxpayers' businesses as business costs or expenses). Funds, therefore, must be paid for, or set aside for payment of, income taxes in incorporated businesses.

Funds for the Future

Having now satisfied both creditors and the government, we must look to the future needs of our business. It may be that machinery and equipment needs to be replaced, if not immediately, then in the near or distant future. In any event, funds must be applied to that purpose. When all else is taken care of, any remainder of funds may be applied to owners, that is, paid out in the form of dividends or withdrawals. Throughout any fiscal period, all this is constantly going on, one thing intermingled with another, funds constantly being received, applied, and interchanged. We can't run any business

"Profits are too often confused with cash-in-the-bank. Most emphatically that is not what profits are. Profits can be measured without the preparation of a profit and loss statement at all. They can be measured by inventorying all of the assets and all of the liabilities at both ends of a given period. The increase in net worth or net assets, from beginning to end of a period, minus any additional capital investment by the owners, and plus any withdrawal by the owners will be a fair measure of the profits earned during the period."

very well if we simply operate to the end of its fiscal year, see what funds are available, and then apply those funds to the interested parties. The whole process must be a continuing one.

We have said that the most important source of funds for a going business is net profits. To answer the question, what happens to the profits, it is necessary to segregate, analyze, pull apart, so to speak, all the different sources and applications of funds. The results of that segregation and analysis

FIGURE I

	Balance Sheet December 31, 1947	Balance Sheet December 31, 1948	Net Change	
Assets				
Cash	$ 15,000	$ 6,000	(—)	$ 9,000
Note Receivable	2,000	3,000	(+)	1,000
Accounts Receivable — customers	100,000	120,000	(+)	20,000
Other Accounts Receivable	1,000	1,000		.....
Inventories	20,000	22,000	(+)	2,000
Total Current Assets	138,000	152,000	(+)	14,000
Prepaid Expenses	2,000	1,500	(—)	500
Investment in U. S. Bonds	10,000	10,000		.....
Loans to Employees	500	400	(—)	100
Fixed Assets—Net of Depreciation:				
Land	10,000	10,000		.....
Buildings	25,000	23,000	(—)	2,000
Machinery and Equipment	32,000	40,000	(+)	8,000
Delivery Equipment	15,000	20,000	(+)	5,000
Total Fixed Assets	82,000	93,000	(+)	11,000
Total Assets	232,500	256,900	(+)	24,400
Liabilities				
Notes Payable	$ 5,000	$ 10,000	(+)	$ 5,000
Accounts Payable	40,000	55,000	(+)	15,000
Drivers' Security Bonds	7,000	7,000		.....
Employees' Payroll Deductions	3,000	4,000	(+)	1,000
Accrued Taxes—Not Income	5,000	6,000	(+)	1,000
Total Current Liabilities	60,000	82,000	(+)	22,000
Mortgage Payable	20,000	18,000	(—)	2,000
Total Liabilities	80,000	100,000	(+)	20,000
Net Worth	152,500	156,900	(+)	4,400
Total Liabilities and Net Worth	232,500	256,900	(+)	24,400

are then set forth in a statement called, *Statement of Sources and Application of Funds.* That statement will make more meaningful the usual two accounting statements, the *Balance Sheet,* and the *Statement of Profit and Loss.* We have stated that net profits for a period may be determined by comparing net worth at beginning and end of a period. Herein lies the key to finding out what's become of the profits. The "Net Worth" section of a balance sheet is usually found at the end of that statement, and, arithmetically, is the difference between total assets and total liabilities. That is, total assets, minus total liabilities, equals net worth. Now, if the differences in the net worths at beginning and end of a period, adjusted for new capital and owners' withdrawals, are measures of profits, then the differences between like items of assets and liabilities making up each respective net worth will give a pretty good indication of just how the net profit for the period under review was disposed of. In figure I two balance sheets, at beginning and end of the year 1948, are set up in juxtaposition, showing the changes that took place during the year in each item, that is, by how much each asset and each liability increased or decreased during the year. It may be seen that, whereas total assets increased by $24,400 from 1947 to 1948, total liabilities increased by $20,000, leaving only a $4,400 increase in net worth. To continue with the analysis, it is now necessary to determine just what caused the change in each of the balance sheet accounts from a "fund" standpoint. First of all, we can eliminate from our consideration all changes in CURRENT ASSETS and in CURRENT LIABILITIES, because the individual items therein are FUND items, and the net increase or decrease in total funds is what we're going to analyze.

Leaving out the fund items, then, for the time being, we go back to the accounts of the company to find out what happened to cause the changes in all the other balance sheet items. We find, first, that the owners (be they individual proprietors, partners, or stockholders) of this business enterprise withdrew $10,000 during the year. They made no capital contributions during the year, so the net profit for the year must be the increase in net worth of $4,400 plus the withdrawals of $10,000, or $14,000. If we set up a Statement of Profit and Loss, it too would show a net profit of $14,400. As that statement is not necessary to this discussion, however, it is not presented. We examine next the prepaid expenses, which decreased by $500 during the year, and we find that this represents, let's say, prepaid insurance premiums which expired or were used up during the year. Loans to employees decreased by $100. We find here that old loans of $400 were paid up during the year, but new loans totalling $300 were made to employees during the year, leaving a net decrease of $100 in the account. The asset "buildings" decreased $2,000. We find that an old building, or part of one, with a book value (cost less depreciation) of $5,500 was torn down, and the scrap was sold for $500. A new addition was built at a cost of $4,000, and the total depreciation charge for the year on buildings was $500. We find that machinery and equipment depreciated during the year by $3,000, but new machinery and equipment was purchased for $11,000, leaving a net increase for machinery and equipment of $8,000. New delivery equipment was purchased for $13,000, but some old equipment was sold for $5,000, and total depreciation for the year on delivery equipment was $3,000. Lastly, we find that the mortgage was reduced by cash payments of $2,000 during the year. The changes may be summarized as follows:

1.	Increase in net worth, 1947 to 1948		$ 4,400
	Withdrawn by owners		10,000
	Net profit for 1948		14,400
2.	Prepaid insurance expired in 1948		500
3.	Employees' loans paid—net		100
4.	Building demolished		5,500
	Buildings depreciated		500
			6,000
	New building erected		4,000
	Net decrease in building account		2,000
5.	Cash received for scrap		500
6.	Machinery and equipment purchased		11,000
	Machinery and equipment depreciated		3,000
	Net increase in machinery and equipment		8,000
7.	Delivery equipment purchased		13,000
	Delivery equipment sold	$5,000	
	Delivery equipment depreciated	3,000	8,000
	Net Increase in delivery equipment		5,000
8.	Mortgage reduced by cash payments		2,000

We have now accumulated all the information essential to determining what funds were provided, and from what sources, and for what purposes those funds were applied or used. In figure II, there is set up an accounting form of a Statement of Sources and Application of Funds, which summarizes, in statement form, all the information gathered on changes in assets and liabilities. It may be readily seen that this company used up, in 1948, more funds than it took in. This could be done in only one way, by *depleting* its working capital, which is exactly what the company did. At the close of 1947, the company had available for working capital

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$78,000, but at the end of 1948, it had only $70,000, or $8,000 less. The question of what happened to the profits, which could only be determined by tracing the traffic in *all* funds provided and applied, of which profits are the most important source, has been answered.

It should be noted that, although net profits for the year were only $14,400, *funds* supplied through profits were $26,400. The reason for this is the non-fund charges made against income to determine profits, as detailed in the Statement of Sources and Application of Funds. Let's consider these non-fund charges to see just how they enter into the picture. First is depreciation. As every business man knows, depreciation expense is a very tangible and costly expense of doing business. It certainly must be considered in determining net profits. However, there are no *funds* involved in charging off depreciation. The funds had been expended when the depreciable assets were purchased. The depreciation charge, therefore, while it is a true and necessary charge against profits, did not necessitate any outlay of funds. To determine total *funds* gained from profits, then, it is necessary to add back that depreciation charge. The same reasoning applies to the add-back for the demolished building. When the book value of the building was charged off against income, again no *funds* were expended. Likewise with the prepaid expenses. The three types of transactions are book entries, involving a very definite and measurable expenditure of *assets*, but nevertheless not affecting the funds of the business at all.

Do Not Confuse Statements

In figure II, the Statement of Sources and Application of Funds is set up in its usual form, in three sections: the sources of funds, the application of funds, and the increase or decrease in working capital as a result of the total traffic in funds. It is possible, and often desirable, depending on who's going to read the statement, to reduce the whole funds statement to a *cash* basis. To do this requires no further analysis, but merely a re-alignment of the component items of the statement. Figure III sets up the statement on the basis of an increase or decrease in the cash account. In figure III, all working capital changes have been incorporated into the sources or application section, and thus the working capital changes section eliminated. The net result here is to arrive at the decrease in cash from the end of one period to the end of the next period. Reference to figure I, Balance Sheet, shows that $9,000 is the amount cash decreased during the year. The funds statement detailed in figure III must not, however, be confused with a statement of cash receipts and disbursements. A statement of cash receipts and disbursements would show merely the traffic in *cash* and not the traffic in funds. It would not explain at all what happened to profits.

This discussion was prefaced with some remarks on the impact of business profits on our economy and on special groups within it. To my way of thinking, the Source and Application of Funds Statement is a most necessary adjunct for management purposes, to the usual balance sheet and profit and loss statement. Only so can management know whether its profits, and other funds, are being properly used. There is another good reason, too, for these statements of funds, in the case of incorporated businesses which are closely held. There happens to be a provision in the internal revenue code for the taxation of what is called "improperly accumulated surplus", that is, profits earned by a corporation, but not distributed as dividends to its stockholders. This tax, imposed in internal revenue parlance on "section 102 net income", is entirely apart and separate from, and in addition to corporate normal and surtaxes, and the reason for it is to insure that the stockholders of a closely held corporation do not escape personal income taxes on the corporate profits through the device of keeping profits in the corporation instead of distributing them as dividends. The basic test of a corporation's liability is the *reasonableness* of its accumulated surplus, that is, whether or not it has been "improperly" accumulated. A corporate taxpayer which does accumulate its profits, as do many from necessity, should be prepared to demonstrate to Internal Revenue that such accumulation is reasonable and is necessary to the proper conduct of its business, and that it had insufficient funds (where such is the case) for distribution as dividends. The Statement of Sources and Application of Funds is perhaps the best way to demonstrate that profits are not being unreasonably withheld from distribution as dividends.

FIGURE II

Statement of Sources and Application of Funds

Sources of Funds		
Net Profits for Year		$ 14,400
Add: Non-fund charges to income:		
Depreciation expense	$ 6,500	
Building demolished (book value less scrap)	5,000	
Expiration of prepaid insurance	500	12,000
Total Funds Provided by Profits		26,400
Employees' loans paid—net		100
Sale of building scrap		500
Sale of delivery equipment		5,000
Total Funds Provided		32,000
Application of Funds		
New Building Erected	4,000	
Machinery and Equipment Purchased	11,000	
Delivery Equipment Purchased	13,000	
Mortgage Reduced	2,000	
Withdrawn by Owners	10,000	
Total Funds Applied		40,000
Excess of Funds Applied, Drawn from Working Capital		$ 8,000

Schedule of Changes in Working Capital

	December 31, 1947	December 31, 1948		Net Change
Working Capital Assets				
Cash	$ 15,000	$ 6,000	(—)	$ 9,000
Notes Receivable	2,000	3,000	(+)	1,000
Customers' Accounts Receivable	100,000	120,000	(+)	20,000
Accounts Receivable Other	1,000	1,000		
Inventories	20,000	22,000	(+)	2,000
	138,000	152,000	(+)	14,000
Working Capital Liabilities				
Notes Payable	5,000	10,000	(+)	5,000
Accounts Payable	40,000	55,000	(+)	15,000
Driver's Security Bonds	7,000	7,000		
Employees' Payroll Deductions	3,000	4,000	(+)	1,000
Accrued Taxes, etc.	5,000	6,000	(+)	1,000
	60,000	82,000	(+)	22,000
Working Capital	78,000	70,000	(—)	8,000

FIGURE III

Statement of Sources and Application of Funds — Cash Basis

Sources of Funds		
Net Profits		$ 14,400
Add: Non-Fund Charges to Income:		
Depreciation Expense	$ 6,500	
Building Demolished	5,000	
Expiration of Prepaid Insurance	500	
Additional Taxes, etc., Accrued	1,000	13,000
Total Funds Provided by Profits		27,400
Less: Increase in Customer's Accounts and Notes		21,000
Net Funds Provided by Profits		6,400
Employees' Loans Paid—Net		100
Sale of Building Scrap		500
Sale of Delivery Equipment		5,000
Provided by Creditors:		
Increase in Notes Payable	5,000	
Increase in Accounts Payable	15,000	20,000
Withheld from Payrolls		1,000
Total Funds Provided		33,000
Application of Funds		
New Building Erected	4,000	
Machinery and Equipment Purchased	11,000	
Delivery Equipment Purchased	13,000	
Mortgage Reduced	2,000	
Inventories Increased	2,000	
Withdrawn by Owners	10,000	
Total Funds Applied		42,000
Cash Depleted—Excess of Funds Applied		9,000

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2. ***ENGINEERING*** — Buflovak Equipment is designed by a competent engineering staff — men with years of experience. Men with a finger on the pulse of industry. Imaginative yet practical men.

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4. ***CONSTRUCTION*** — Buflovak equipment is designed and fabricated in our modernly equipped 18 acre plant. Only the finest materials are used. Only the most capable craftsmen are employed.

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Quality milk begins on the farm. Good cattle and good pastures are the first step but an integrated program of field supervision by qualified specialists has been a valuable addition to the drive for a still better milk in Wisconsin.

Field Service Activity in Wisconsin Aims at Quality Milk

By **ROBERT E. KOEHLER**

"DAIRY QUALITY IMPROVEment" are three words in the active vocabulary of Wisconsin's dairymen who produce and process almost one-sixth of the nation's milk supply. Joining hands in this work are the dairy plant operators and their fieldmen, milk producers, inspectors, the State Department of Agriculture and extension workers at the University of Wisconsin's College of Agriculture.

The campaign for dairy quality has been going on for many years and numerous problems have been encountered along the way. Because of the many technical features involved, it becomes difficult to accurately measure all the results. One criterion, however, is to study the progress of field service work which is being carried on in the state. Many problems of quality production have been solved through this service.

Coop Field Supervision Plan

The Dairy Division of the State Department of Agriculture reports that during 1948 231 plants in Wisconsin adopted the cooperative association field supervision plan for the first time. At the end of the year there were 1,063 plants in the state making use of this type of plan. They employ about 400 fieldmen who work with patrons in a year-round quality program.

Use of the field service plan has been expanding for a number of years, according to Dairy Division experts. It provides a means of direct contact between the producer and the plant operator and makes it possible to carry on a consistent program of quality improvement. Larger plants employ their own fieldmen; the smaller factories have joined hands through cooperative field service associations.

Milk producers like the plan because it gives them quick, friendly service when quality problems arise, dairy officials comment. Dairy plants like the idea because the close contact with patrons helps them to give producers a better return as a result of improved quality of the products manufactured.

The effectiveness of the service is illustrated in a study of an association which includes dairy plants in two counties. The report, prepared by the Dairy Division, covers about 16 months of activity. During this period the fieldmen made 55,798 sediment and 25,557 methylene blue tests, inspected 20,326 milk

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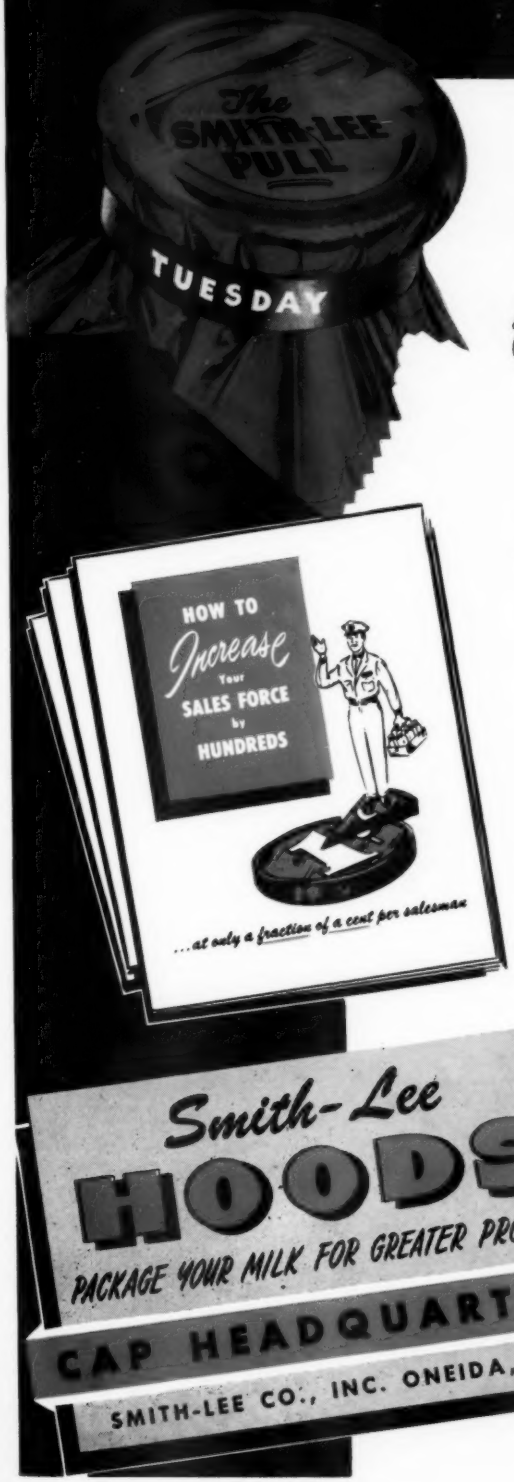
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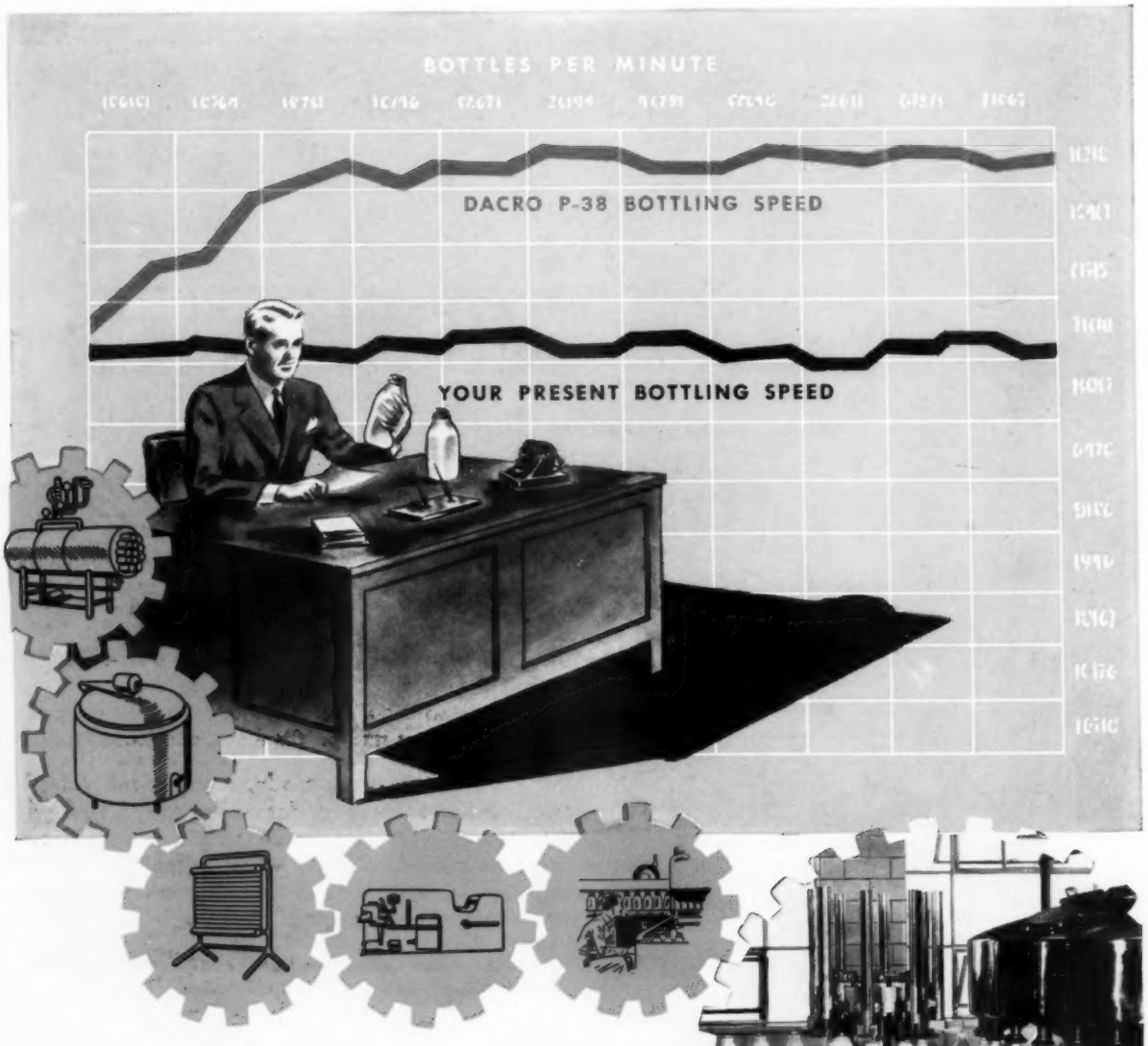

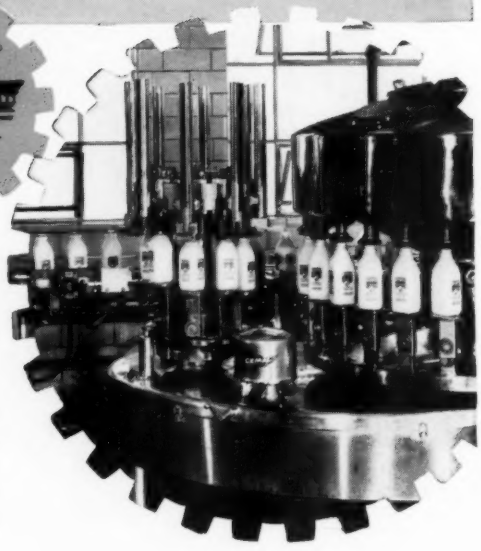

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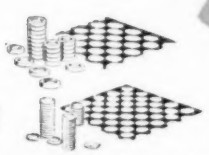

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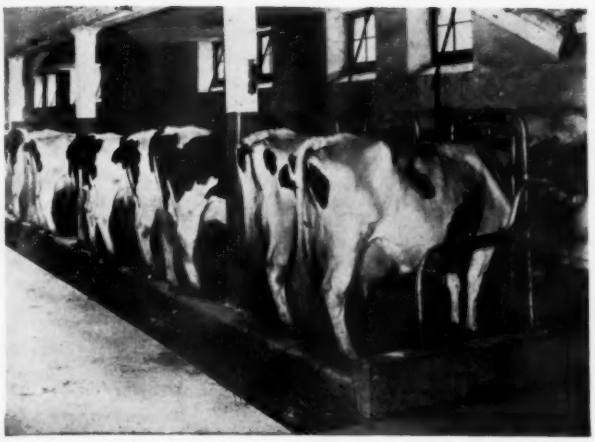

Milk producers like the cooperative field supervision plan because it gives them quick friendly service when quality problems arise. Dairy plants like the idea because the close contacts with patrons helps them to give producers a better return as a result of improved quality of the products manufactured.

cans and made 1,544 farm calls. Rejections at dairy plants totaled 65,595 pounds of milk.

When tests indicate that milk quality is below standard, calls are made to the farms for the foundation of any quality improvement program is found with the producer. Wisconsin dairy farmers are educated on good production methods through such devices as the pamphlet prepared by H. C. Jackson and Evert Wallenfeldt, extension specialists at the College of Agriculture. Their list of "14 Steps to Good Milk" includes: Healthy cows, careful feeding, clean barns, insect controls, well made utensils, bacteria free utensils, clean cows, good milking methods, clean milking machines, clean utensils, proper straining, good milk house, proper cooling and enclosed truck.

Dairy inspectors play their part in the program which has resulted in Wisconsin producing some of the best milk in the United States. The Badger state employs 25 of these men who check each dairy plant and the incoming milk supply. Each processor must be issued a license, which is subject to revocation when his plant fails to meet requirements. Among other things he is held responsible for the raw material used in the finished product, for the sanitation of the plant and equipment, for sewage disposal, and for control of rats and insects.

Following is a summary of inspection work done from July 1, 1946, to June 30, 1948, as published in the State Department of Agriculture's latest biennial report.

Dairy Division officials emphasize that basic work in improving milk quality must be done on the state level. Individual cities and markets have their own milk ordinances, but they cannot include standards lower than those set forth by the state or dairy department. Milwaukee, for example, demands that all whole milk be pasteurized.

"Laws alone have not brought about quality," a department spokesman declares. "Wisconsin has natural advantages, including favorable climate, good water and grasslands, and the farmers in the state have brought dairy backgrounds from countries like Germany and Switzerland."

This official also points to the fact that the Badger state, unlike some of the others, has a civil service system which tends to eliminate political interference in appointments. He goes on to say that there is a need for specific standards in the state to clarify the statutes on many points. The Dairy Federation, made up of representative producers, processors and public agencies, has drawn up proposals to prevent the sale of insanitary milk and cream in accordance with laws already on the books. These recommendations have been issued in the form of an order effective Nov. 15, 1949.

Almost from the very beginning, Wisconsin's dairy leaders talked and urged dairy quality. Since the passage of the first dairy law in 1866 tremendous strides have been made in that direction. The highlights of that program will be told in an article in next month's issue.

DAIRY INSPECTION SUMMARY

	1946 July-Dec.	1947 Jan.-Dec.	1948 Jan.-June	TOTAL
Cheese Factories Inspected	1,723	3,552	1,745	7,020
Condenseries Inspected	116	203	83	402
Creameries Inspected	413	754	372	1,539
City Milk Plants Inspected	684	1,193	592	2,469
Dairy Farms Inspected	1,720	2,655	1,729	6,104
Process Cheese Plant Inspections	7	39	8	54
Ice Cream Plants Inspected	55	186	87	328
Milk Powdering Plants Inspected	154	278	143	575
Receiving Stations Inspected	422	717	323	1,462
Cans Inspected	100,540	259,396	138,066	498,002
Cans of Cream Inspected	56,902	5,861	3,840	66,603
Milk Tested for Fat	2,462	8,872	3,414	14,748
Milk Tested for Solids Not Fat	1,736	498	257	2,491
Milk Tested for Sediment	100,319	400,815	226,412	727,546
Milk Tested by Methylene Blue	13,354	21,329	11,284	45,967
Milk Tested for Fermentation	1,828	4,951	2,633	9,412
Samples to Bacteriological Laboratory	1,956	4,327	2,171	8,454
Samples to Chemical Laboratory	960	2,288	1,073	4,321
Truck Milk Tank Inspections	18	196	113	327
Factory Statement Investigations	35	96	28	159
*Special Work	4,207	6,822	3,674	14,703

*Special Work consisted to a great extent in assisting farmers in planning and locating milk houses, arranging for quality dairy program meetings, checking qualifications of applicants for butter or cheese makers license, investigating complaints of weight and fat test of milk, consultations with district attorneys, serving as witness in court cases, and similar work for which there was no regular report blank.

Prosecutions

July 1, 1946-December 31, 1946	93
January 1, 1947-December 31, 1947	187
January 1, 1948—June 30, 1948	39
Total	319

CHARLES F. BRANNAN

JOHN BRANDT

CHARLES W. HOLMAN

Government Price Support Plan Questioned

National Cooperative Milk Producers Federation Tackles Problem of Surplus on a Self Help Basis—Brandt Re-elected President at Annual Meeting

By **NORMAN MYRICK**

WHAT TO DO with surplus milk was the major riddle that confronted more than 800 members of the National Cooperative Milk Producers Federation at their annual meeting held in New York's Hotel Statler early in November.

Giving substance to the question prominent in dairy industry thinking, Secretary of Agriculture Charles F. Brannan asked, "How long will the American People submit to continued accumulations of butter and cheese while supporting dairy products at 90 percent — or even 75 percent — of the modernized parity?" Other speakers emphasized the problem and offered solutions ranging from self help programs for handling surplus to stimulation of foreign trade as an outlet for excess dairy products.

Can We Sell More?

The Secretary of Agriculture, whose approach was one of exploration rather than selling, discussed the so-called Brannan Plan. He placed the proper consumption of milk in the United States at 150 billion pounds per year and asked the convention whether the dairy industry was fulfilling its "grave responsibilities" of doing everything possible to plan for the efficient and wise use of its products.

"Can it do a better selling job through commercial channels than it is now doing," he queried, "I am asking; not accusing. I don't know the answer."

Secretary Brannan said that although the new farm legislation is a significant advance over the legislation of the 80th Congress, there are still some highly important problems it does not solve.

"The administration," he pointed out, "proposed not only a higher level of support for dairy products, but also a method which would enable them along with other perishables to be consumed in greater amounts."

We now have authority for a somewhat higher support level, but we are still limited to the old method of loans and purchases.

Through support operations at 90 percent of the present parity price, the Government has accumulated almost 100 million pounds of butter.

Already, we have a tremendous disposal problem.

What is going to result from the new act?

We know the tremendous capacity and need of the American people for milk and dairy products. Does it serve the needs of either consumers or producers when we have to take great quantities of butter and other dairy products off the market?

The logical extension of the government price support program from handling surplus to strict production control was seen by E. W. Gaumnitz, executive secretary of the National Cheese Institute. "Under present conditions and at parity prices more dairy products are likely to be produced than will be consumed, even with employment at the highest levels in history," Mr. Gaumnitz said.

Price Support Scrutinized

"Price supports without accompanying restrictions will result in piling up products," Mr. Gaumnitz stated. "It is difficult to believe that such stock piling represents the goal of governmental policy. On the face of it, resources are not utilized economically. If such a price objective is to be pursued as a policy, it seems likely that restrictive devices are to be expected as a further step. The choice of restrictions will affect conditions under which enterprise is to be conducted, and adversely affect the standard of living. Perhaps the objectives and devices need reconsideration."

"While exports in 1949 amounted to only about 2 percent of total milk leaving farms," Gaumnitz said, "those exports were substantial in terms of specific products. Under support programs, absence of those exports would probably mean an additional 100 million pounds of butter or 200 million pounds of cheese in government hands."

This year farm milk production will amount to something over 117 billion

This large capacity Henszey 3 Effect Evaporator runs 10 to 15 hours per day making low heat and high heat powder. It has been installed in a space only 11′ x 14′ without building reconstruction. All parts sanitary and accessible for cleaning and inspection.

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The Henszey unit brings a new high in efficiency to the industry. Tests have proved that this remarkable evaporator saves up to 70% of the steam and up to 80% of the water requirements of ordinary pans including ALL preheating of milk. Besides this outstanding efficiency, the Henszey Evaporator is easy to clean and requires the least amount of floor space. It is a complete unit, assembled and pre-tested at the factory, and requires only the proper connections to set it into operation.

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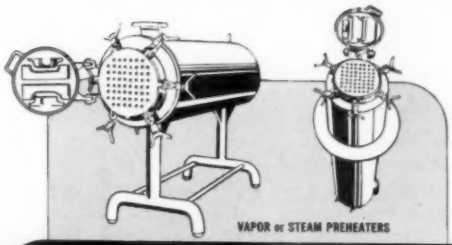

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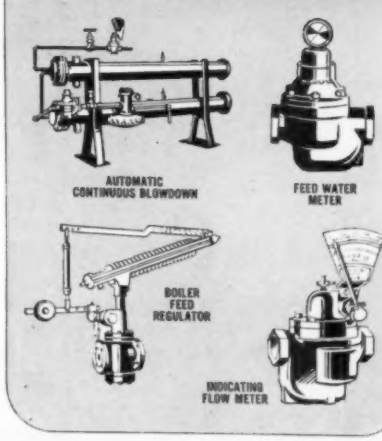


pounds, he pointed out. Up to the first of November, the government has purchased some 99 million pounds of butter, 32 million pounds of cheese, and over 300 million pounds of nonfat dairy milk.

The whole question of price supports came in for close scrutiny. Ottie M. Reed, an economist with the National Cooperative Milk Producers Federation declared that government purchase programs for dairy products should interfere as little as possible with the normal in-and-out of storage movement as handled by the commercial trade.

"Once a basic minimum price has been determined," Reed declared, "seasonal price movements should be established in such a fashion that the commercial trade will be encouraged to carry a normal inventory. If the differential between into-storage prices and out-of-storage prices is too small, the trade will have a tendency to let the government carry the surplus."

Butter Differential Too Wide

Speaking specifically of butter, Mr. Reed stated that if too wide a differential is established between into-storage prices and out-of-storage prices, the tendency will be for the trade to hold its butter. At the end of the heavy production season, when the government's seasonal increase in prices goes into effect it may be found that the trade cannot then readily absorb large storage holdings.

"The holders of butter, under such circumstances, are inclined to sell to the government, reaping the advantage of this wide differential. It is probable that butter differentials were set too wide this year, with the result that when government price increases took effect in late July, more butter was sold to the government than would have been the case otherwise.

"Once the government has procured a commodity under a price support program, sound common sense urges that outlets be found to avoid loss of good food, without operating to the disadvantage of producers.

"In this respect, the price support program faces one of the most serious problems in its history. The public will not endure, over any extended period, huge government surpluses which may be wasted. Nor will consumers stand for market prices which rightly or wrongly, they consider too high."

Government policies on oleomargarine and foreign trade were seen as contrary to the ideas embodied in price support legislation by R. S. Waltz, general manager of the United Dairyman's Association of Seattle, who urged consistency in government policies affecting the dairy industry.

"Recently enacted price support legislation has for the first time given to dairy farmers comparable treatment to that given producers of the so-called basic crops," he asserted. "At the same time many government operations are to the disadvantage of dairy farmers and are inconsistent with price support legislation. We need immediate clarifications of government policies and the creation of a consistent program."

Mr. Waltz listed the administration's policies on oleomargarine and foreign trade as two examples of those which, he said, run counter to the dairy price support program.

"The administration is endeavoring to remove the taxes on the manufacture and sale of oleo without granting adequate safe-guards to the dairy farmer by limiting the extent to which this vegetable oil spread can imitate the natural features of butter. While dairy farmers are willing that Congress remove the taxes on oleomargarine, they are opposed to giving oleo manufacturers this imitation privilege. Dairy groups are urging Congress, if it removes the oleo taxes, to prohibit interstate shipment of yellow colored oleo.

"The foreign trade policy also runs head-on into the price support policy. The Department of State is busily engaged in negotiating trade agreements to reduce tariffs. Some of these agreements already have cut the butter duty in half on a very large volume of butter imports. Irrespective of arguments for a freer world trade – many of which are important – it would seem best that tariff concessions be made only on those commodities, both industrial and farm, which are not plentiful in this country. Concessions on commodities which are in domestic over-supply, and on which the Government is conducting price support programs, are illogical and uneconomic."

What To Do With It

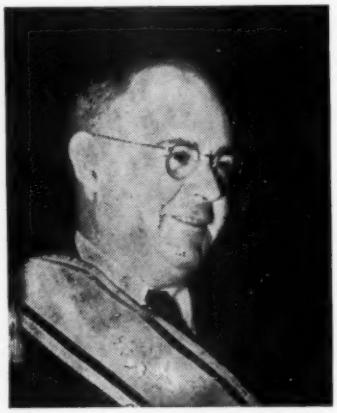
Criticism of present butter supports was voiced by E. J. Ryger manager of Mid-West Producers Creameries South Bend, Indiana. Support programs should be operated jointly by producer groups and the federal government, Mr. Ryger said.

"Butter, cheese, evaporated milk and non-fat dry milk are accumulating in government warehouses, as a result of decreasing consumption of fluid milk and smaller export demands," Ryger declared. "Much can be contributed to removal programs by producer dairy marketing organizations."

Ryger was sharply critical of the present government butter-purchasing program, as compared with earlier stabilization programs operated by the farmer cooperative Dairy Products Marketing Association.

"The present program departs from usual practice," Ryger said, "in that it does not set prices at major terminal

GRANGE LEADER FEELS MILK FOR HEALTH IS ANSWER TO SURPLUS



Henry D. Sherwood

"I am glad to see the N. Y. milk shed dairy farmers doing something about the consumption of fluid milk," is the opinion of Henry D. Sherwood, Master of N. Y. State Grange. "October showed a 23% increase in production, but a considerable drop in per capita use of this important food."

"Next week I will attend the 83rd Annual Sessions of National Grange in California," the farm leader said, "and I am pleased to be able to report such fine progress made by this cooperative effort on the part of our farm people to stimulate the sale of their major product, milk.

"Agriculture faces a serious problem of surpluses, which can be met by intelligent marketing methods. Instead of letting government controls limit our production, we must find ways to get more dairy products on the table of the American family.

"Milk For Health, Inc.," Mr. Sherwood emphasized, "is an organization bringing sound advertising and educational methods to the selling problem of the dairy industry."

NEW **DAMROW** STAINLESS-STEEL WEIGHING-RECEIVING COMBINATIONS

DAMROW Type WNN Weigh Tank with Type TN Receiving Tank.

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markets. Many producers were forced to give up their established outlets to take advantage of the government price f.o.b. plant. Small producers were unable to avail themselves of the f.o.b. plant price at all, since they were unable to accumulate carload lots, due to their small volume.

"These plants were forced to continue shipping their butter to distant terminal markets, paying their own cost of transportation and receiving two to three cents less than the support price from large handlers and speculators.

"Considerably less butter would have had to be purchased by the government if the program had followed previous programs of the Dairy Products Marketing Association.

It remained for an outsider, Warren F. Whittier, chairman of the board of the Federal Reserve Bank of Philadelphia, to crystallize the uneasiness that characterized the discussion on support. "Americans," Mr. Whittier, said, "must abandon the myth that Washington is the headquarters of Santa Claus," In ringing words, reminiscent of the great age of American liberty, Mr. Whittier declared, "We cannot continue to waste our physical resources as if they were unlimited – the soil, the forests on the surface, and the oil and minerals beneath. If we do not conserve these, we may lose our least measurable but most priceless resource: freedom of speech, of the press, of the polls, of enterprise. Our very strength may be our weakness."

Mr. Whittier scored the pouring out by four administrations of more than nine billion dollars "in the name of soil conservation and to maintain prices of agricultural products above their worth in a free market." Apologists call it orderly marketing, he said; realists call it folly. "It is double-barreled folly because it not only taxes the American consumers but it also prices our overseas neighbors out of our markets, thus denying them the privilege of sharing in our wealth.

Trade is a Two-Way Street

"We can not continue to play store with the rest of the world by hoping only to sell and not to buy from them. We have almost all of their money already; wherewith shall they buy if we maintain trade barriers. Trade is a two-way street.

"The United States has been thrust into a position of world leadership. Our standard of living is the envy of all people. The universal acceptability of the American dollar is a symbol of our strength. But our follies are sapping our strength. If we are to retain our position of leadership, we must cast off our provincial policies and accept the responsibilities as well as the authority of leadership.

Translating the historic principles laid down by Mr. Whittier, into a course of action for cooperatives, Leo H. Benson, manager of State Brand Creameries, Inc., Mason City, Iowa, proposed a self help program under which dairy farmers would finance the disposal of surplus milk products.

"If the government continues to support most farm commodities at 90 percent of parity, it is only a question of time until the public gets fed up with the whole program," he warned. "Dairy farmers should plan a realistic program to be ready for the time when they must depend upon their own efforts and take advantage of their own resources and marketing machinery.

"Dairy farmers lose too much of their independence when they must look to government for handouts, regulations and the operation of their own programs. The best stabilization plan is where the producers do their own stabilizing so that a solution to the problems of surpluses can also be given first importance. Too often when the government is handling surpluses this problem is neglected. Furthermore, government support may be withdrawn at a very inopportune time as was the case on milk powder in December, 1948.

"Dairymen should be ready to step in with a program of their own. The surplus holding pool plan is a good one. The Dairy Products Marketing Association, a producers' organization, is ready to do the job and has had eleven years of experience in the handling of over a billion pounds of dairy products.

"Excess amounts in the surplus holding pool could be disposed of at relatively small costs to the school lunch program, for relief purposes, research uses, consumer nutritional programs and to foreign countries. Whatever the cost, the producers would assess themselves for the loss. Many believe that South America offers a very good market for nonfat milk solids if aggressive action is taken by dairy producers. We cannot expect the government to take aggressive action to find markets for us, but we should rely upon the resourcefulness within our own industry."

Good Pricing Can Help

Howard W. Selby, general manager of the United Farmers of New England saw the matter of surplus as a problem in pricing. "Dairy cooperatives have learned how to pool surplus milk," Mr. Selby declared, "but we have not yet learned how to price it correctly. From July 1947 through March 1949 – 21 months – dairy farmers under the Boston order lost over half a million dollars in handling the market's surplus milk.

"Dairy cooperatives in the Boston market have taken the initiative in solving this problem. In the fall of 1948 they asked the Federal Market Administrator to appoint a committee of men in, and out of, the dairy industry to study the price problem. They have found that the price formula should include adequate investment income of the value of buildings, equipment, and working capital needed to manufacture the surplus milk.

"The Boston Class II price formula has three parts: a price of cream for a butter value; the price of powder for a fluid skim milk value; and a fixed rate per hundred weight of milk to cover the cost of receiving milk at country plants and manufacturing it into surplus products. This last allowance is a matter of life and death to the handler of surplus.

"Surplus handling facilities, like any other fixed assets, compete with other enterprises for a return on invested capital. If no return is allowed, no one will invest and the present surplus milk handling facilities cannot be improved, expanded or replaced. Only a few years of such stagnation would wipe out the progress of the last two decades of effort to dispose of milk surpluses to the best advantage of farmers and consumers alike."

At the conclusion of the four day convention officers for the coming year were elected. John Brandt of Litchfield, Minn., President of Land O'Lakes Creameries was chosen to serve another term as President of the federation. Other officers elected were.

First vice-president, W. P. Davis, Boston, general manager, New England Milk Producers Association.

Second vice-president, W. J. Knutzen, Burlington, Wash., president, United Dairymen's Association.

Treasurer, George W. Slocum, Milton, Penn.

Secretary, Charles W. Holman, Washington, D. C.

Two new directors were added to the board: A. M. Cheney, Beamis Point, N. Y., and C. B. Palmer, St. Louis, Mo.

The voting delegates approved an amendment to the articles of incorporation, changing the name of the organization to "National Milk Producers Federation." Also adopted was a by-laws amendment under which the number of directors was increased to permit direct representation on the board of all member associations.

YOUR friendliness and patronage have been an important contribution to our success and well being . . .

May we express our thanks to you as we wish you a good old-fashioned Merry Christmas and for the New Year abundant good health, prosperity and happiness

THE URNER-BARRY COMPANY

EDITORIALLY SPEAKING . .

Mississippi Wins Again

IT LOOKS as though folks have the wrong idea about Mississippi. Mention of the name usually conjures up visions of plantations and cotton, levees and catfish. But if the record of the dairy products judging teams from Mississippi State College is any indication of the true situation there is more to the picture than crinoline and magnolias. Eighteen times teams from Mississippi have entered the dairy products judging lists with the best that nation's land grant colleges have had to offer. With the plunder that rewarded their superb victory this year at Los Angeles, Mississippi teams have collected eight fellowships, eleven cups, and twenty-three medals. If the trophies were the significant fact in this feat we applaud politely and go about our business. But it seems to us that the trophies are only secondary. It seems to us significant that from a land which holds great promise as a dairy region, the institution, on whose shoulders rests the greatest responsibility for making the promise a reality, is fulfilling its obligation. We congratulate Sam Swett, Jack Stanley, Dee Graham and their Coach Professor F. H. Herzer for the fine showing the team made at Los Angeles. But we also congratulate the Mississippi State College for the seed that it is sowing which one day will be reaped in the form of a mighty new industry for the South.

•

Let's Cut Out the Cutting

THE ANNUAL CONVENTIONS of the Milk Industry Foundation and the International Association of Ice Cream Manufacturers that have just come to a close in Los Angeles did not lack subjects of importance for their deliberations. In Milwaukee a first class price war has pinned back the ears of the fluid milk business. In New York a price reduction, 1½ to 2¼ cents a quart, has caused a stir. In Providence, Rhode Island, the industry has been brought to the point where it is necessary to "restore confidence in milk". In Pennsylvania the State Milk Control Board has been receiving scathing editorial broadsides from the daily press. In addition to all these, labor troubles have added to the difficulty of doing business. The picture is one of turmoil. It embraces practically all phases of the milk industry, labor, price, quality, producers. Some of the difficulties are beyond the immediate control of milk dealers, others are not.

Price Wars, For Example

Price wars are not started by labor leaders or by producers or by government officials. The only people who can cut the price of milk so that it precipitates a price war is the fellow who sells the milk. Lower milk prices reflecting efficiency of operation is a highly desirable goal. Low milk prices, unwarranted by the economics of the industry, employed simply as a temporary expedient to gain customers is a highly undesirable practice. Who benefits? The customer gets milk a cent or two cheaper for awhile. But when the price goes up again as it must, the ravages of the price war will show up either in poorer milk, poorer service, or a price higher than it would have been had milk dealers been able to devote their energies to reducing operating costs rather than cutting each other's throats. Certainly the dealers do not benefit. Certainly producers do not benefit. About the only groups that really can rub their hands over a knock-down, drag-out price war are the critics whose criterion of what is good is anything that tends to wreck the present system of distributing milk.

In New York, for example, the past year has been marked by an investigation of the milk business by the city's Commissioner of Investigations, John Murtaugh. A great deal of sound and fury, of newspaper headlines and spectacular subpoena failed to substantiate any of the charges of collusion that were leveled at the milk companies. A careful study by Cornell University showed that profits were small, that the spread could be reduced only through increased efficiency. Then came the payoff. Sheffield Farms suddenly reduced the price of their milk in Northern New Jersey by as much as three cents a quart. Over night all of the good work that the Spencer report had accomplished, all of the ramparts of fact that had been built up in the face of the Commissioner's investigation were demolished. All Mr. Murtaugh had to do was say, "Well, I told you so." And who could blame him. His whole case had been predicated on the contention that prices could be reduced without penalty to the producer or to labor. Here was the proof, a three cent reduction, just like that.

The producer's reaction to this business of price cutting is reflected in the following editorial which appeared in the October issue of *The Independent Producers' Guide*, a New York State producers' paper.

Something Cockeyed Here

"A few months ago the so-called 'Erwin Commission', a joint legislative body, published an elaborate report covering its investigation of the spread in the price of milk in New York City.

"The report blandly stated that some dealers were losing money, as much as .838 cents per quart. Other dealers were making a profit of not more than 1.336 cents per quart.

"And now along comes some of the larger dealers in New York reducing prices from two to two and one half cents per quart.

"Does the Erwin commission think that dairy farmers of this shed are so dumb as to believe that the dealers are now going to lose from two to three cents per quart?

"The whole thing shows, what the Guide has contended right along, that the Commission's report was in error, to use a mild word.

"But the real pay-off came when Chairman Erwin announced that the reduction in New York bears out the report made by his commission. It certainly does not do that. If anything it proves the commission was wrong.

"This Erwin Commission has been operating four or five years. It has spent some $500,000 of the taxpayers' money without, as yet accomplishing anything real and constructive for the milk producer.

"It's about time the Erwin Commission closed up shop."

It seems to us that dealers would do a lot better to give their attention to improving their operating effectiveness, to study the great problem of labor relations, to work so that a situation such as the Providence fiasco does not develop rather than rampaging over the market with a price slashing cutlass.

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DR. ROBERT F. HOLLAND

Problems of the Industry

DR. JAMES C. WHITE

Dr. Robert F. Holland and Dr. James C. White, both of the Department of Dairy Industry at Cornell University, conduct their question and answer column each month in the "Review". Questions should be addressed to either Dr. White or Dr. Holland, Department of Dairy Industry, Stocking Hall, Cornell University, Ithaca, N. Y.

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Cooling Cream

QUESTION — As you may know, we manufacture Milk Coolers of the water bath type for cooling milk in cans on the farm.

Recently, the matter of cooling cream has been called to our attention and we are attempting to find information on the rate at which cream cools as compared to milk. We understand that due to the differences in the physical characteristics of the two fluids, cream cools at a considerably lower rate. We would appreciate hearing from you concerning any literature or information that you may have on this cooling problem.

We would also like to obtain information on the advantages and disadvantages of using sweet cream for making butter and cheese as compared to sour cream.

We would appreciate very much any help that you may be able to offer us on these problems.

E. C. T., Massachusetts

ANSWER — We regret that we are unable to provide you with satisfactory data on your cream cooling problem. You are probably familiar with the literature on the specific heats of milk fat to a greater extent than any one here. We feel that satisfactory information is not available principally because the rate of cooling depends, in a very large part, upon the viscosity and there is no such thing as a standard viscosity in cream. We realize it is a real problem and our opinion is that about 50% time factor should be added to cream on an average over the time required to cool milk under given conditions. We are sorry that we cannot give you any definite information on this point but perhaps we can be helpful in regard to your other questions.

A great deal of literature has been published by the midwestern universities comparing sweet and sour cream for buttermaking. Sweet cream butter usually does not score so high as sour-cream butter when first made because properly made sour-cream butter contains many highly flavored materials produced by the organisms present. Sweet cream butter, however, has a mild flavor and much better keeping qualities. The problem has always been to preserve butter for long periods of time so that advantage may be taken of the seasonal variations in butter prices. Sour-cream butter cannot be effectively stored. Many so-called sweet-cream butters are made from cream which has soured but was neutralized before pasteurizing for buttermaking. When this is done the butter has good keeping qualities but will usually show an "old cream" flavor. Such butter also usually has a neutralized flavor from the materials added to counteract the developed acidity.

Where cream is used in cheese making, in cream cheese and Neufchatel, sour cream or neutralized sour cream cannot be used to make a satisfactory product. I think you have a large time margin for cooling cream, but one factor must be remembered and this s the hydrolysis of fatty acids where the inducing agent is the enzyme lipase found in milk. This reaction takes place even at relatively low temperatures in raw cream but pasteurized cream will not grow rancid. The enzyme is activated by changing the temperature of cooled materails. Where raw cream is held at 35° to 40° in the cream cooler and where fresh separated cream is added to the batch the temperature of the mixture will rise. These conditions are sometimes ideal for the activation of the enzyme so that hydrolysis takes place at a very rapid rate and the cream is unsalable. Under such conditions pasteurization immediately after separation is about the only remedy unless it is possible to cool the fresh cream before it is mixed with the old batch.

Further information on this can be derived from standard textbooks on market milk and market cream should you care to pursue the subject further.

Modified Babcock Test

QUESTION — We have heard of a new method of making the Babcock fat test without the use of sulfuric acid or a centrifuge. Will you please describe this test and tell us if it is permissible to use it in a milk plant for farmers' samples?

A. F. G., New York

ANSWER — A fat test answering your description appeared in the July 29, 1949, edition of *Science* under the title, *The Use of Detergents for Quantitative Fat Determinations*

1. *Determination of Fat in Milk* by Philip Schain

The procedure for running this test is as follows:

"*Materials.* (A) A supersaturated solution of a fat dye is prepared by mixing 500 mg of oil red 0 in 100 ml of isopropyl alcohol. Two and one-half ml of the clear solution is added to a mixture of 100 g of a standardized nonionic

(Please turn to Page 47)

amazing

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It's the darndest world! Here we've been thinking that penicillin was the killingest "Bug Killer" of them all. Turns out to be true, too. Only trouble is it kills the good ones as well as the bad ones. In this article Mr. Krienke tells you what effect penicillin has no starters.

PENICILLIN IN MILK

A Hazard to Starters, Buttermilk and Cottage Cheese Manufacture

By **W. A. KRIENKE**
Florida Agricultural Experiment Station
Gainesville, Florida

PENICILLIN is finding wide usage among dairymen as a means of combating mastitis. In order that this "wonder drug" can bring about effective control of the organisms responsible for many cases of mastitis it must be administered in a very high concentration. The second requirement is long duration of penicillin in the infected udder. For this reason a dosage of 75,000 I.U.'s* (ointment base) per infected quarter is injected soon after the udder is emptied of milk.

Through the natural process of milk secretion a considerable amount of the injected penicillin is dispersed in the milk and is withdrawn during the milking operation. The concentration of penicillin in milk from different cows will vary considerably depending upon the amount of milk produced and it will become progressively less with each milking after treatment.

Hood and Katznelson (1) have reported that small amounts of penicillin in milk, 0.5 I.U. per ml. of milk, practically stopped the production of lactic acid in cheese milk that had been inoculated with three percent culture and the milk held at 98° F. for a period of five hours. Hunter (2) concluded that steaming of the milk to be used for cultures for one hour resulted in approximately 50 percent loss of the penicillin it contained.

Experimental

It was considered desirable to investigate the effects of penicillin on buttermilk starters (*Streptococcus lactis* type cultures) propagated at 68°-70° F. This study embraces three phases with respect to acid production by the lactic starters: (A) effects of varying concentrations of penicillin; (B) effects of heat treatment (culture milk heating); (C) effects of dilution of milk from penicillin treated udders. Each sample was inoculated with one percent of a fresh active buttermilk starter and was incubated at 68°-70° F. until titratable acidity determinations were made.

Results

The results of these studies with complete data are being prepared for publication. It is recognized, however, that certain results of these investigations have such far-reaching immediate importance that there should be no unnecessary delay in the dissemination of such information.

Amounts of Penicillin

Milk containing as little as 0.10 I.U. of penicillin per ml. of milk developed acid slowly, 0.46 percent titratable acidity as compared with the non-penicillin control of 0.75 percent titratable acidity, when incubated at 68°-70° F. for 16 hours; after 24 hours the values were 0.59 and 0.80 percent, respectively. When 1.0, 0.50 and 0.25 I.U.'s of penicillin were present in the cultured milk the acidity developed to 0.26, 0.25 and 0.27 percent, respectively, during a 16 hour incubation period.

Heat Treatment

Regardless of the heat treatment given the milk containing 1 I.U. of penicillin per ml. of milk, 143° F. for 30 minutes, 190° F. for 60 minutes, 10 pounds steam pressure in an autoclave for 15 minutes, or 15 pounds steam pressure for 15 minutes followed by temperature adjustment to 70° F. and subsequent inoculation with one percent of culture, the titratable acidity did not exceed 0.24 percent within 18 hours when incubated at 68°-70° F.

Dilution

When the entire milking (8.6 pounds of milk) was taken from a cow 12 hours after one quarter had been treated with 75,000 I.U.'s (ointment base) penicillin and a portion diluted with 95 percent non-penicillin milk, the milk heated in the autoclave at 10 pounds steam pressure for 15 minutes, cooled to 70° F., inoculated with one percent culture, and incubated at 68°-70° F. for 17 hours, the titratable acidity was 0.50 percent as compared to 0.88 percent for a control sample (100 percent non-penicillin milk) treated in a similar manner. A dilution with 99 percent untreated milk included in the same series resulted in 0.86 percent titratable acidity, showing only very slight inhibiting effects.

From the second milking after treatment an 80 percent dilution showed only slight effects of the penicillin. Milk from the third milking after treatment of

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* I.U. = International Unit — Defined by the Food and Drug Administration as "the penicillin activity contained in 0.6 microgram of the Food and Drug Administration master standard and is approximately equivalent to the original Oxford Unit."

another cow had an acidity of 0.39 after 18 hours of incubation when treated as the foregoing.

A warning is directed to those engaged in cultured dairy products that penicillin in milk from treated cows is a hazard to starters, buttermilk and cottage cheese. It should be emphasized that on the basis of milk produced by the penicillin treated cows used in this study, the treatment of one quarter of one cow can result in slow acid production even when mixed with milk from 20 cows that had not been treated. *If all four quarters had been treated this proportion would be one treated cow to 80 not treated.* Even this ratio is not a safe one as the dilution data show.

It is recognized that veterinarians are very emphatic in their instructions to dairymen not to include the milk within 24 hours after penicillin treatment, but it must also be stressed that difficulties with starters, buttermilk and cottage cheese have been reported to the author for which there appeared to be no sound explanation on the basis of previous information. Every precaution should be taken by the dairyman to exclude questionable milk, relative to penicillin, from that used for the fermented products.

Because heat treatment of the milk, as commonly employed, has very little effect on inhibition of penicillin it cannot be considered of any assistance in alleviating difficulties associated with slow acid production by lactic starters.

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CRYSTAL BALL AT BAY STATE

Amherst — The outlook for agriculture in Massachusetts, both production and marketing, will be discussed by some of the nation's outstanding farm leaders during the eighth annual Outlook Conference November 30 and December 1 at the University of Massachusetts.

The 1950 conference will combine production and marketing problems for the first time in the history of this event, according to George W. Westcott, extension economist and conference manager. In previous years, farm production and marketing problems have been handled in separate conferences, Westcott explains.

Senator George D. Aiken of Vermont will interpret the Agricultural Act of 1949. Senator Aiken is the ranking Republican committeeman on the Senate Agricultural committee and was closely involved in the development of this act. Manager Westcott describes Aiken as "one of the most respected and fair minded legislators on the national scene."

Another prominent speaker is a native of Massachusetts. He is Robert C. Tetro, formerly of Williamsburg, now Secretary of the National Outlook Board for the U. S. Department of Agriculture. Tetro will discuss the general agricultural outlook with special reference to food supplies.

A third prominent speaker will be Wendell P. MacDonald, regional director of the U. S. Bureau of Labor Statistics. MacDonald will discuss "Business Outlook and Consumer Demand for Farm Products in 1950."

The 1950 Production and Marketing Outlook Conference is sponsored by the Massachusetts Agricultural Program board with Sumner R. Parker of Amherst, chairman. Parker announces the Outlook Conference is designed to provide greater educational facilities for the leaders of Massachusetts agriculture.

The outlook for ten major commodities will be considered during the conference. These will be poultry, dairy, vegetables, fruit, potatoes, forestry, livestock, cranberries, tobacco, and farm management adjustments.

This year's conference will give farm organizations an opportunity to consider the effects of the 1949 Agricultural Act upon farm prices. Manager Westcott says the meetings in recent years have been quite helpful to individual farm organizations and public agencies.

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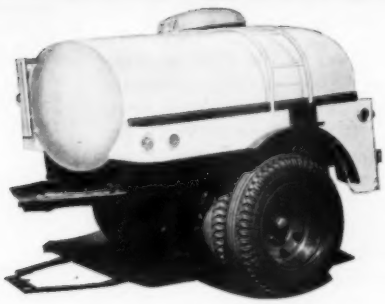

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RUST

BILLION DOLLAR RAT HOLE

By JONAS HOWARD

DESTRUCTION through rust and corrosion of milk equipment has long presented a problem. Millions of dollars annually is the cost which we pay for this single form of property and equipment deterioration, and while research over the years has tended to make it possible to effectually reduce this rate of loss, neglect to apply tested remedies on the part of individual firms in the field still make the losses high.

It is not alone in the field of dairy equipment and property damage resulting from rust that management is interested today. Corrosion of equipment also tends to bring about slowdowns in operations and to increase the rate of accident incidence. Yet, our share of the staggering annual losses in money through rust remains of primary concern to those in our field who are responsible for long and short range operations.

What IS this vast annual bill? Quoting K. C. Compton, Finish and Corrosion Engineer, Bell Telephone Laboratories: "The estimated cost of corrosion (in the world) of upwards of ten billion dollars a year would be multiplied tenfold were it not for the use of protective coatings which, in this country alone, exceed five hundred millions in cost." So, the proper evaluation of these protective coatings assumes a role of considerable importance to the economy of the milk industry as well as the whole world's vital activities.

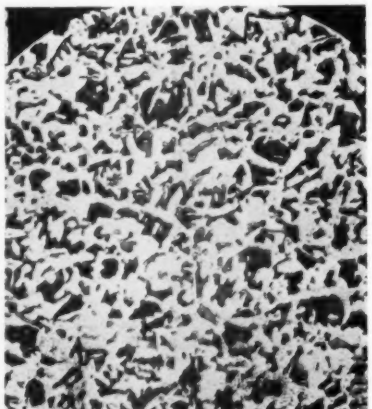
What are these measures which, it has been found, will prevent and/or reduce this destruction, and what lies ahead?

Corrosion Varies with Climate

Of course, the processes of corrosion vary with climate, local conditions, surface conditions, materials, in this and many other industries and fields of activity. Yet, in general, the war against the monster R-U-S-T is being scientifically waged in the general interests of human activity.

Let us consider here some interesting facts.

It has been held by authorities that, by a conservative estimate, loss through rust (of iron and steel, and in an overall sense) requires the replacement of about two per cent each year of the entire tonnage of these two metals now in service. It will thus be seen that 15 to 20 millions of tons of iron and steel are "lost" annually in the United States in this way. This fact, it will be seen by those responsible for upkeep of equipment and machinery, places a high cost on the use of these metals.



Under the microscope rust looks like this. Chemically it is the combination of iron with oxygen in the air to form ferrous oxide.

The whole subject as already touched on, while dealing with a fundamental principle is complicated over our wide industrial, agricultural and transport field by the degree of deleterious effects on these metals by such varying elements as weather, compress, acids, contacts, degree of exposure, time element, and so on.

It has been repeatedly pointed out by experienced engineers that the potential losses through rust and corrosion in any activity making important uses of metals indicate the need for "insurance" against them just as insurance is universally assumed against fire. It may also be said that great strides have been made in the last generation looking to the improvement of methods and facilities to prevent and reduce rust.

Meantime, investigatory work goes forward.

The National Association of Corrosion Engineers, for instance, has set up a technical committee, the objective of which is to collect specific information about the economic effects of rust. The report of this committee, it is said, carries much farther along the research work which has previously been done in this field.

Coming down to the concrete, it may be said, and quoting Norman E. Hamner, Editor, Corrosion Magazine; "The problem of mitigating corrosion seems to be one of preventing materials from returning to the state in which they were found *before* fabrication. At best this can be only partially successful."

Rust Action Is Treacherous

It has been pointed out that one of the things which has stood in the way of awakening interest in corrosion and its destructive powers, is the fact that for the most part its very action is *insidious*.

As Mr. Hamner has said, further:

"The more spectacular aspects in which large structures machinery or equipment show the ravages of their environment may be the most striking but they are not, necessarily, the most important from the standpoint of economy."

Thanks, pal...!

THE pull for sales against tough competition demands two kinds of SALES POWER: The *big* pull to sell the product, and the *extra* pull to sell the brand.

The National Dairy Council is the "Anchor Man" for the dairy industry. NDC, for more than 35 years, has been pulling hard for greater sales and greater consumption of milk, butter, cheese and ice cream. By direct contacts with the thousands of group leaders throughout the nation, NDC is convincing the buying public that dairy foods *come first*, and are needed in greater quantity by every man, woman and child in America.

This fundamental selling job is in strong hands, because NDC is backed and strengthened by *every* segment of the dairy industry. Every NDC membership dollar in reality buys 3 dollars worth of dairy product sales promotion. For example, a dollar from a milk dealer for milk promotion is matched by a producer dollar and a machinery and supply dollar for the same purpose. This is likewise the case of butter, cheese and ice cream dollars, when put to work in NDC. This industry-wide membership support gives NDC the sales power to *build sales that stay sold.*

If YOU are not lending a hand in this power-pull for more sales of milk and milk products, grab hold of the rope right away by writing NDC for its long list of membership services.

"Milk producers are investing more than $650,000 a year in Dairy Council work. We find it a paying investment, and feel that every branch of the dairy industry should likewise support this work."

L. A. CHAPIN, *President*
Dairymen's League Co-operative Ass'n

"The National Dairy Council is doing an essential foundation selling job for everyone in the dairy industry. Membership services of NDC make membership support a sound investment."

N. R. CLARK, *Vice-President Swift & Company*

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RUST — THE DESTROYER

***By* C. P. LARRABEE**

(Carnegie Illinois Steel Corp.)

The atmospheric corrosion rates of identical specimens of iron vary tremendously throughout the world. The variables which are most responsible for these great differences are length of time the surface is moist and the amount and nature of atmospheric contaminants, of which sulphur dioxide and sodium chloride are the most common and potent. Under similar conditions of exposure at one location, the atmospheric corrosion rates depend mainly upon composition of the steel and not upon method of manufacture.

The rate of atmospheric corrosion is dependent upon: (1) The length of time moisture is in contact with the surface, (2) The extent of pollution of the atmosphere, and (3) The chemical composition of the iron or steel. Certain alloying elements promote the formation of a more dense, adherent and, hence, protective rust, which retards atmospheric corrision resistance increased from 1.5 to 4 times depending upon the location. Similarly phosphorus itself (over 0.05 percent) has a beneficial effect but it is especially noticeable in the presence of copper.

Other elements, such as nickel, silicon, chromium, manganese, and molybdenum, alone and in combination, have varied effects upon the atmospheric corrosion of iron, which in general, must be determined in various atmospheres.

Nearly all users of machinery, and equipment and facilities have at least some of it exposed to air and weather, while part of it must fight the war for survival against rust underground. The annual total loss to America due to repair and replacement of *underground* structures plus the costs of lost commodities, lost income and contingent losses caused by underground corrosion is estimated to be around $1,000,000,000.

In considering the advances made in efficiency and effectiveness of various protective methods and techniques during the past twenty-five years, perhaps that involving processed fish oil (with pigment) has been the most outstanding.

The discovery of this raw product as a preventive and protective for corrosion goes back some 25 years — the result of the experience of a sea captain who noted the ruthlessness with which rust ate into his ship's metal surfaces and parts. He also recognized the fact that fish oil tended to prevent and eliminate the effects of this rust, and the experimentation that followed established the fish-oil basis preventive in the forefront of the "war" against metal property deterioration.

Other basic agents, as well as other methods of combatting deterioration of metals through rust and corrosion, such as red lead, zinc chromate and crude, and finally, deodorized fish oil which now comes in a wide range of colors and special purpose coatings have marked these advances most clearly, and, the successful deodorization of fish oil furnishes what is perhaps the most interesting and important of these anti-rust developments.

Two Lines of Attack

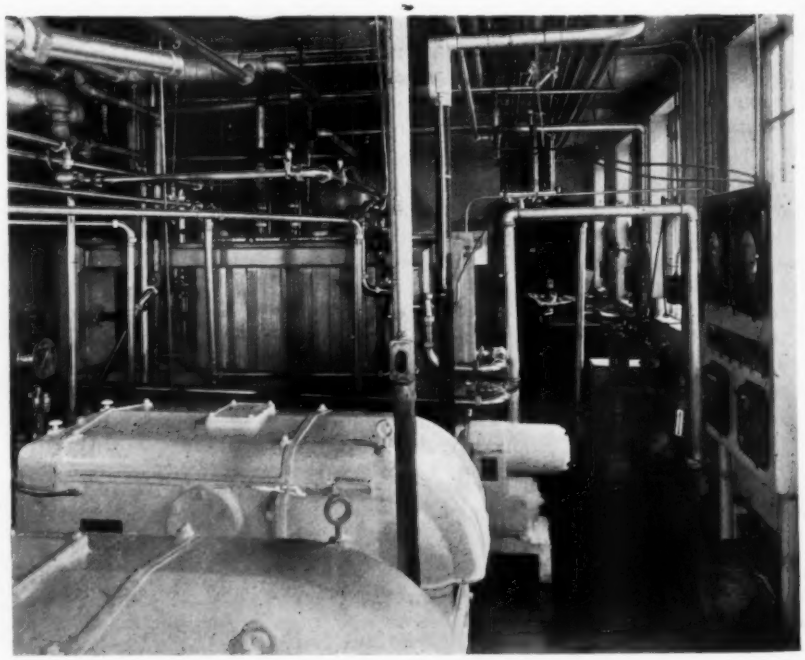
Since the earliest investigations of corrosion, dating back nearly a century, progress has been made along two principal lines toward increasing the resistance of metals to the destroyer. One line of research has been directed toward the development of iron alloys which offer greater resistance to corrosion than the metal in its usual commercial state. Nickel and chromium alloys are the best known and most widely used in industrial service, either separately or together. Forming the bases of the rustless iron and stainless steel groups, they represent the best efforts to combat corrosion by composition. However, the relative high costs of alloy metals removes them from serious consideration, except for decorative purposes, in the average applications to structural use.

To withstand severe conditions, copper-bearing steel is often used, and aluminum is coming into favor for window frames and sash. However wide the use of these corrosion-resisting metals, there remains a large tonnage of commercial and transport iron and steel that must be guarded against disintegration by protective coatings. And, to this end, is the other line of research directed. Here, the problem is to preserve existing equipment and structures. Painting is successful if the surfaces are properly prepared by the removal of mill scale, rust dirt and grease to receive the priming coat, consisting usually of linseed oil as the vehicle for a pigment such as red lead, iron and zinc oxides, or lead and zinc chromates. A handicap is the heavy expense imposed by the cleaning operation. In the search for a priming coat that could be applied directly over the rusted surface, industrial chemists found that pre-oxidized fish oil offers a satisfactory solution to the problem.

Development of Fish Oil

Such a product has been developed, and has been used rather widely in spite of certain objectionable characteristics, such as slow drying, "tacky" surface, and a persistent odor. Along this same line, however, a new product has been per-

(Please turn to Page 43)



With rigid sanitary standards to meet, rust is something that the dairy plant can well get along without. Nevertheless, conditions in milk plants are ideal for corrosive action.

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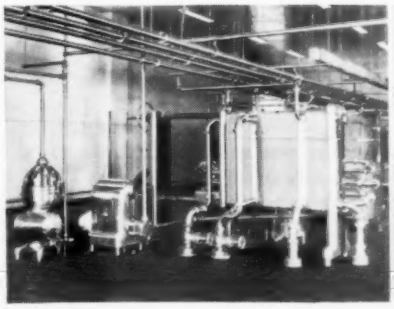
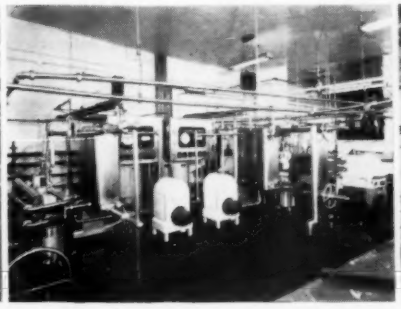
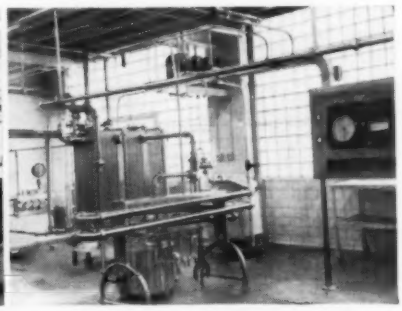
All over the country leading plants have saved milk, man-hours and money by installing Superplate, the industry's finest, most-advanced plate-type equipment—for Shortime pasteurization, heating, cooling and regeneration. This is impressive evidence why you, too, should investigate Superplate, the leader in simplified design, superior sanitation—low maintenance cost, savings in space and other advantages.



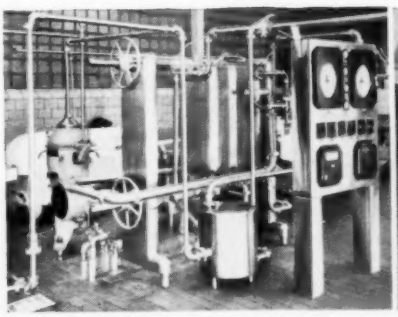
Model SBS-150, 18,000 lbs. per hour Superplate Shortime Pasteurizer, Knudsen Creamery Co., Los Angeles, California.



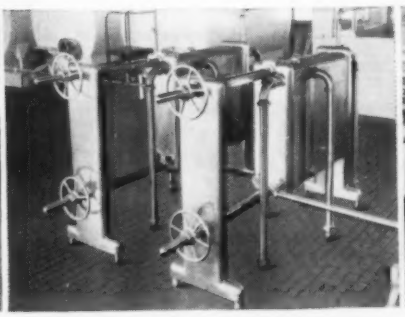
10,000 lbs. per hour (right) and 8,000 lbs. per hour Superplate Shortime pasteurizers, Saginaw Dairy Company, Saginaw, Michigan.



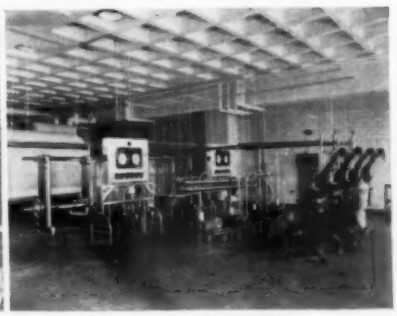
Banquet Ice Cream and Milk Co.'s 16,000 lbs. per hour, Model S Superplate Shortime pasteurizer in their plant at Indianapolis, Indiana.



Sanitary Farm Dairies, Cedar Rapids, Iowa, 8,000 lbs. per hour, Superplate Shortime Pasteurizer.



Two model SBS-200 Superplates cool up to 75,000 lbs. of milk per hour with well water and sweet water for Lowville Producers Cooperative, Lowville, New York.



33,000 lbs. per hour dual Superplate Shortime pasteurizer installation at M. and R. Dietetic Laboratories, Sturgis, Michigan.

Superplate Has Many Uses

Here are a few:

Market milk pasteurizer
Cheese-milk pasteurizer
Raw milk cooler
Milk pre-heater
Milk-to-milk regenerator
Pasteurized milk cooler
Pre-heater for separator
Milk pre-cooler and final cooler
Ice cream mix cooler
Ice cream mix heater
Skim-milk heater, cooler, regenerator
Skim-milk pre-heater
Cream heater-cooler
Sour cream (for butter) cooler
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MINIMUM WAGE AND HOUR LAW

A Million and a Half Workmen Are Affected by the New Regulations — Method of Calculating Overtime Is Changed

By **S. HERBERT UNTERBERGER**
Labor Relations Information Bureau, Washington, D. C.

JUST BEFORE it recessed, Congress boosted the minimum wage to 75 cents an hour and made other very substantial changes in the Wage and Hour Law. The new law, which goes into effect on January 25, 1950, affects more business than any other legislation passed this session.

The most sweeping change, affecting more than a million and a half workers, is the increase in the minimum wage from 40 to 75 cents an hour. This affects employees in interstate and foreign commerce who are not specifically exempted by some special provision.

In addition, the law makes three principal changes:

(1) It redefines which employees are covered by it. Some categories are added and some are substracted. The net effect will be to exempt a sizable number of employees (more than 200,000) who were previously covered.

(2) In some important respects, it revises the methods for determining when overtime must be paid and for calculating what the overtime amount should be. The effect will be that some employers will be able to save some overtime payments and many will be able to simplify their payroll accounting.

(3) The penalties are made somewhat less severe. Double damages may be waived and businessmen who unwittingly deal in "hot goods" (goods made under illegal conditions) are protected.

An employee was and continues to be covered if he is clearly engaged in interstate commerce or in the production of goods for interstate commerce.

Generally, an employee who was covered under the old law continues to be covered by the new. Whether you will have to observe the higher minimum wage and the new overtime provisions and whether you will have to maintain and preserve wage records depends on how closely your own employees are related to interstate commerce.

Under the old law, an employee would also be covered if he engaged in work that was deemed "*necessary*" to such production. Many an employer was caught as a violator even though his employees did not appear to have any substantial relation to interstate commerce. In questionable cases, both the Wage and Hour Administrator and the courts generally ruled that the employees were covered by the law. Thus, even where the relationship to interstate commerce was farfetched the employees were likely to be held to be covered. For example the employees of a small fertilizer company were held to be covered because the fertilizer was used by local

---

This is what it means to the Dairy Industry—

The changes in the Wage and Hour Law described in Mr. Unterberger's accompanying article will affect all American industries, including the dairy industry.

The dairy industry will be especially interested in two amendments in the new law which apply to it specifically.

1. The new law exempts from both the minimum wage and the overtime provisions "any individual employed as an outside buyer of poultry, eggs, cream, or milk in their raw or natural state.

2. The new law exempts from the overtime provisions, but not from the 75c minimum wage the employees of employers engaged in the first processing of buttermilk into dairy products. This means that employees engaged in any further continuous processing where buttermilk is used as the raw material are no longer covered by the time and one-half overtime provisions of the law.

It is important to note that the new law continues unchanged the exemption from the overtime provisions of employees of employers engaged in the first processing of milk, whey, skimmed milk or cream into dairy products.

The new law also continues unchanged the complete exemption—from both the minimum wage and overtime provisions—any individual engaged in making cheese, butter, or other dairy products within the "area of production" of the milk used as raw material. The Wage and Hour Division has said that this exemption covers employees engaged in preparing and making any of the following products:

Milk: fluid, skimmed, sour, concentrated skimmed.

Cream: sweet and sour.

Butter: creamery, whey butter, renovated or processed butter.

Cheese: all varieties.

Condensed milk: sweetened or unsweetened.

Buttermilk: including condensed and evaporated.

Dried or powdered buttermilk.

Casein: dried or wet.

Malted milk.

Milk sugar.

Ice Cream.

But, to be exempt, the employee must work in the "area of production", that is, in an establishment which is in the open country or in a rural community and 95 per cent of the commodities on which work is performed must come from normal rural sources of supply located not more than 20 airline miles from the establishment.

Defining the "area of production" continues to be the duty of the Wage and Hour Administrator. An amendment which would have transferred that power to the Secretary of Agriculture, passed the House of Representatives but failed in the Senate.

Dairies, who primarily do a retail, local business, may be affected by the new provisions in the law relating to exemptions for combined retail-processing establishments. The conditions under which this exemption operates are set forth in Mr. Unterberger's accompanying article. It will be important to watch how the Wage and Hour Administrator applies these new rules to the dairy industry.

farmers in the raising of sugar cane for the production of sugar which was to be shipped out of the state. Similarly the employees of a quarry were held to be covered because the stone was delivered in the same state to a dike which would prevent a flood in an oil field producing for interstate commerce. The law was also applied to employees of a window cleaning company some of whose customers were engaged in interstate commerce and to the employees of a nursery who mowed the lawn of a customer engaged in interstate commerce.

Congress has made it clear that the new law is not to be held applicable to the employees in the preceding illustrations and others like them. On the other hand, an employee not directly engaged in producing goods for interstate commerce will still be covered if he is engaged in a closely related process or occupation directly essential to the production of such goods.

Thus, Congress made it very clear that it did not mean to eliminate clerical workers, maintenance men and custodial employees who work in establishments producing goods for interstate commerce. Even though the goods do not actually pass through their hands, they are to be regarded as engaged in a closely related process or occupation directly essential to their production.

How much change does this really make? What it boils down to is that Congress told the Wage and Hour Administrator and the courts that, henceforth, they should not stretch the law's coverage the way they used to. By amending the law and changing the words, Congress gave them an occasion and an opportunity to reverse many of their former rulings.

Retail Trades and Service Exemptions

The original Wage and Hour Law intended to exempt the ordinary retail or service establishment doing most of its business within the same state. Complications arose where the establishments also engaged in some wholesale trade or carried on manufacturing in the same establishment.

The new law tries to make the definition more specific. To qualify for the exemption, a retail or service establishment must meet the following tests:

(1) More than 50% of its annual dollar volume of sales must be made within the state in which the establishment is located.

(2) At least 75% of its annual dollar volume of sales must not be for resale, and must be recognized in the particular industry as retail sales or services. Establishment selling building supplies and materials should be aware of the fact that the law specifically states that " 'resale' shall not include the sale of goods to be used in residential or farm building construction, repair or maintenance . . .".

If the retail establishment also manufactures some or all of the goods which it sells, the new law exempts all of its employees including its manufacturing employees, provided the following three additional tests are met:

(1) It must be recognized as a retail establishment in its particular industry.

(2) The manufacturing and the selling must be done at the same location.

(3) More than 85% of the annual dollar value of the goods which it makes or processes must be sold within the state in which the establishment is located.

These provisions will be of special interest to such combined manufacturing-retailing establishments as bakeries, merchant tailors, ice-cream parlors, ice plants, etc.

Previously, many laundry and cleaning establishments did not know whether they were exempt as service establishments.

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Under the new law, they are specifically exempted if more than 50% of their annual dollar volume of sales is made within the state and if less than 25% of their annual dollar volume of sales is made to customers engaged in mining, manufacturing, transportation or communications.

If an employer wishes to qualify for the retail or service exemption, he should have records to prove that he meets the tests. His records should show which sales are made within the state as well as which are made for resale. If there is any doubt about his being recognized as a retail sales or service establishment, he should take steps to secure such recognition. He may also want separate records for the sales of goods which have been manufactured at the same location. If he operates a laundry or cleaning establishment his records should show the sales to customers engaged in the enumerated industries.

If he fails to meet any of the tests, the employer can take steps to qualify. For example, if slightly less than 50% of his sales are made within the State he may find it desirable to eliminate some out-of-state customers or to intensify his promotion of local business.

Other Important Exemptions

The new law exempts certain kinds of workers who had not been exempted before. They include certain irrigation workers, the employees of taxicab companies, of small loggers and sawmills, of contract telegraph agencies, and newsboys.

It also permits an exemption to somewhat larger newspapers and larger telephone exchanges than formerly.

It continues in effect the exemption for agricultural workers; seamen; employees of street, suburban and interburban electric railways, trolleys, or motor buses; and employees of the fishing industry. Also continued is the exemption for executives, administrative and professional employees, those employed in a local retailing capacity and outside salesmen. However, the regulations defining which employees are included in these five categories are being revised. When the revisions become operative, it is expected that some presently exempt employee will no longer be exempt.

Also unchanged is the overtime exemption for 14 weeks in a year in seasonal industries. Minor changes have been made in the conditions under which the guarantee of annual wages relieves the employer of the liability for overtime payment.

The Wage and Hour Administrator continues to have the right to authorize partial exemptions – from the minimum wage, but not from the overtime requirement – for learners, apprentices, messengers and handicapped workers. Special provision has also been made for establishing lower minimum wages for employees in Puerto Rico and the Virgin Islands.

On the other hand, two groups – the employees of air carriers and fish canners – which used to be exempt from both the minimum wage and overtime provisions of the law, are now in the same category as motor carriers, railroads, express, oil pipe line companies and water carriers whose employees are subject to the minimum wage but not to the overtime provisions.

Finally, the law now covers employees engaged in importing operations.

It is clear from this discussion that deciding whether certain employees have become exempt is frequently a difficult technical problem. To be safe, expert assistance should be utilized. If certain of your employees are really exempt there may be much to gain by knowing that; but also much can be lost by a wrong decision.

The New Overtime Rules

Just like the old law, the new law provides that work in excess of 40 hours per week must be compensated at not less than 1½ times the regular rate of pay. But there is a difference. The old law did not define what it meant by working time and by the "regular rate". As a result, the Wage and Hour Administrator and the courts developed their own meanings for these concepts. These definitions were frequently very rigid, and sometimes unrealistic and contradictory. The new law spells out the definitions in greater detail.

The Meaning of Working Time

Even before the new law was passed, the Portal-to-Portal Act of 1947 amended the original Wage and Hour Act of 1938 so as to clarify the meaning of working time. It will be remembered that the Portal-to-Portal Act was passed to stop a flood of law suits, which claimed compensation for waiting time, make-ready time, gate-to-bench time and other varieties of non-productive time. This flood was encouraged by a Supreme Court decision which made it appear that all these would be included in working time.

The Portal-to-Portal Act laid down the general rule that activities need not be included in working time if they take place before an employee begins or after he ends his productive activities, except if there is a contrary contract, custom, or practice in the establishment.

The new law specifically permits the parties to a collective bargaining agreement to exclude from working time any time spent in changing clothes or washing at the beginning or end of the working day. Where clean-up time is being paid for, it is now possible to change this practice by changing the collective bargaining contract.

How to Compute Regular Rate

The new law tries to state much more specifically than ever before precisely what should and should not be included in determining the "regular rate" of pay. Determining this "regular rate" is, of course, the essential first step in figuring out the required overtime rate of 1½ times the "regular rate".

The new law does not change the basic rule laid down by the Supreme Court that the "regular rate" means the hourly rate actually paid for the ordinary, non-overtime workweek. Thus, if for the non-overtime workweek, an employee receives wages or piece rates, bonuses, commissions or board and lodging, they

"I think it's a shame crime doesn't pay. You were so interested in it!"

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(or their value) all must be included in the regular rate. To compute the regular hourly rate, all that is done is to take these total payments and divide by the number of hours worked.

The situation began to get complicated when questions arose as to whether premiums paid for Saturday, Sunday, holiday or night work were to be included in the regular rate or left out; or whether gifts were to be included in the regular rate; or whether employer payments for group life insurance were to be included in the regular rate; etc.

A start was made toward clarification in an amendment to the Wage and Hour Law enacted July 20th of this year whereby there could be excluded from the regular rate any premium paid for work on Saturdays, Sundays, holidays, the sixth or seventh day of a workweek or work outside the basic, normal, or regular workday or workweek provided that the premium is at least ½ the rate for like work performed in non-overtime hours.

The new law provides further clarification by enumerating additional types of payments which need not be included in the computation of the "regular rate":

(1) Gifts, but only if the amount of the gift does not depend on hours worked, production, or efficiency.

(2) Payments made for occasional periods when no work is performed due to vacation, holiday, illness, failure of the employer to provide sufficient work, or other similar cause.

(3) Reasonable payments for travel expenses or other expenses, incurred by an employee in the furtherance of his employer's interests and properly reimbursable by the employer.

(4) Other payments to an employee which are not made as compensation for his hours of service.

(5) Payments made in recognition of services, but only if the payment is determined solely by the employer and not pursuant to any contract, agreement, or promise.

(6) Payments made pursuant to a bona-fide profit sharing plan or trust, or thrift or saving plan, but only to the extent that the amount is not determined by hours of work, production, or efficiency.

(7) Payments as talent fees to performers and announcers in radio and television.

(8) Contributions irrevocably made to a trustee or third person pursuant to a bona-fide plan for providing old-age, retirement, life, accident, or health insurance or similar benefits to employees.

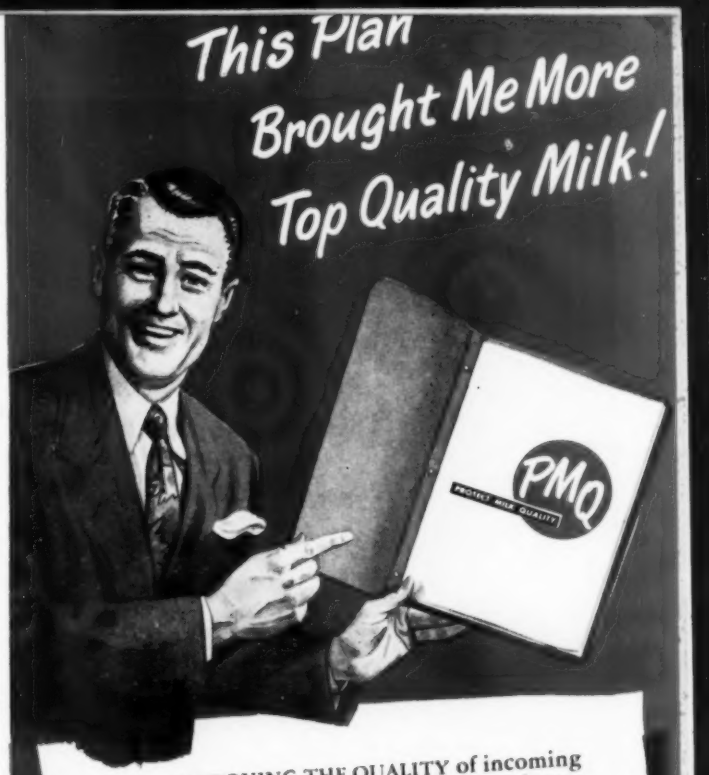
(9) Extra compensation for work in excess of 8 hours per day or 40 hours per week or in excess of the employee's normal or regular working hours. This extra compensation may be credited against any overtime payments due under the law.

The Problem of Fluctuating Workweeks

Under the old law, an employer who wanted to pay his workers a constant wage even though they were required to work more than 40 hours some weeks and less than 40 hours other weeks found that it was almost impossible to develop such a plan which would not be held to be in violation of the law.

The new law sets forth a method for leveling out the pay of employees who must work irregular hours. The employer and the employee or his representative are permitted to agree upon any regular rate of pay not less than 75 cents an hour. The employer guarantees pay for some agreed-upon number of hours, not exceeding 60 a week, with time and one-half after 40 hours. By fixing a low hourly rate and a high number of hours per week, the weekly pay generally can be kept constant.

For example, if an employer wishes to pay an employee $70 per week – regardless of fluctuating hours – he could



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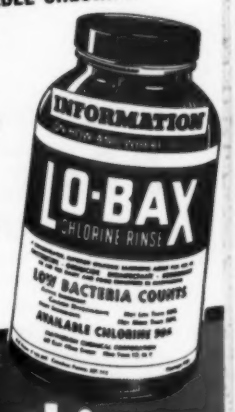

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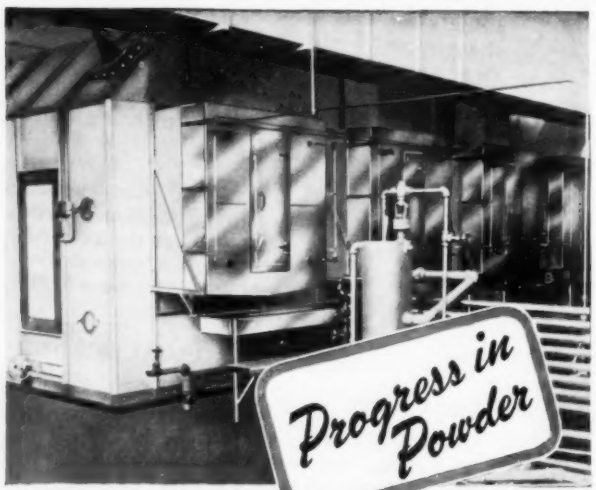

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provide a basic rate of $1 per hour and a guarantee of 60 hours of work. If the employee works 40 hours he gets $70; if he works 50 hours he still gets $70 under the guarantee (his calculated rate would be only $55 including 10 hours at time and one-half); if he works 60 hours he would still get $70 (which is equal to the calculated rate, 40 hours at straight time and 20 hours at time and one-half). Only if he works more than 60 hours would he be paid more than $70 per week. Thus, if he works 70 hours he would be entitled to $85 for 40 hours at straight time and 30 hours at time and one-half.

Now that employers may adopt this kind of constant wage plan without violating the law, they may want to investigate its use carefully. In many cases, a constant wage is a more desirable method of wage payment and it will frequently simplify payroll accounting.

Additional Opportunities for Simplifying Payroll Accounting

Under the old law, if an employee worked at piece rates or if he performed more than one kind of work during the week at varying rates, the calculation of the regular rate of pay often became very complicated. The regular rate had to be an average hourly rate for the work done during the week. For this reason, it could not be calculated until after the week was over and the performance and earnings records were all available.

The new law provides several ways to simplify the calculations.

Where piece rates are used, no complicated calculation need be performed. Work done during overtime hours may be paid for simply at 1½ times the piece rate applicable to the same work during non-overtime hours.

Where an employee works at different hourly rates during the week, there is also no longer any need for a complicated calculation. Here too, the new law provides that overtime hours may be paid for at 1½ times the rate applicable to the same work during non-overtime hours.

The new law also provides another way to handle the situation where the regular rate of pay is difficult to figure out. It permits the establishment, either by agreement or understanding between the employer and his employees, of a basic rate for a particular job. This basic rate may then be used as the regular rate for the purpose of computing overtime. There is one condition. The basic rate established must be authorized by the Wage and Hour Administrator as substantially equivalent to the average hourly earnings of the employees in the particular work over a representative period of time.

These methods offer real opportunities for simplifying payroll accounting. Care should be taken in their introduction. But the possibility of using them should not be overlooked.

Penalties Made Less Severe

Previously, the purchaser of so-called "hot goods" (goods produced under conditions which violate the Wage and Hour Law) who transported, shipped, delivered or sold any of them was subject to criminal penalties even if he did not know that the goods were "hot". This harsh restriction is now greatly eased. The purchaser will suffer no penalties if he bought the goods in good faith relying on written assurance from the producer that they were produced in compliance with the requirements of the Act. Purchasers who wish to be protected should henceforth require such written statements from their suppliers.

Under the original law an employer faced the danger of being held liable for double damages even after his employees had agreed to a settlement of their claims for some lesser sum. The new law provides that an employee may authorize the Administrator to make a binding settlement in his behalf.

Sales Helps Are Important

By **FRANK W. GRAY**

PERSONAL SELLING is limited in its scope. It corresponds to skilled handwork in factory production. The salesman can work on only one prospect at a time. His efforts are restricted by time and energy.

It is human nature to want to make work easier. The easing and expanding of human effort is the reason for all industrial mechanization. Just as automatic and semi-automatic machinery makes work less burdensome to the factory worker, so various ways and means are developed to ease and expand the efforts of the salesman.

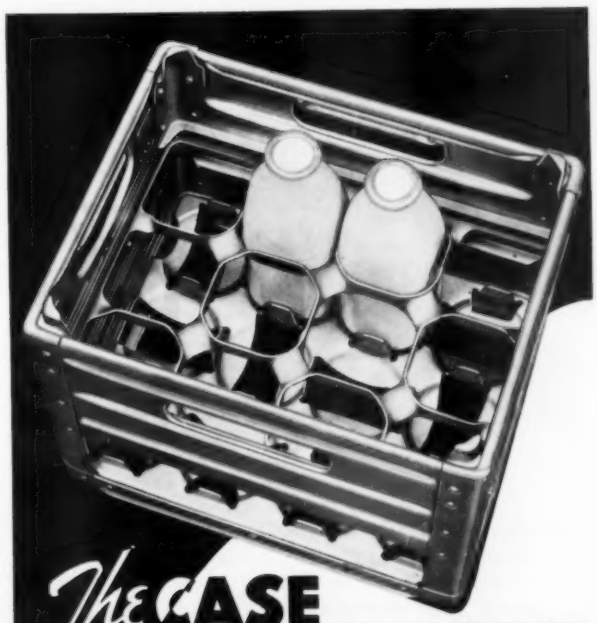
With this in mind, every salesman should welcome the use of selling tools. Advertising is a selling tool — it reaches thousands while the salesman is contacting dozens. It reaches the ultimate consumers whom most salesmen never contact. Displays, literature, catalogs, and other printed materials are also effective selling tools. When used in the right way, they supplement and assist the efforts of the sales force.

We often find that salesmen regard advertising and other forms of promotion as outside their sphere of activity. Some salesmen regard them as of questionable value when it comes to the business of taking orders. One of the hardest links to weld in the building of a marketing machine is to correlate personal selling with advertising and other sales promotion.

The active cooperation of salesmen is necessary in bringing this correlation about. Advertising must be "merchandised" to jobbers and dealers. Point-of-purchase advertising must be put up in the right locations and at the right time. Catalogs must not only be distributed, they must be used constantly. Direct mail programs should be followed through, special deals promoted, and all other marketing activities supported by the men with the brief cases.

Every worth-while accomplishment is an aggregation of details well done. Personal selling alone cannot be successful in marketing a product on a large scale, any more than advertising, direct mail, displays, or other media can function alone. This is a day of organization, not rugged individualism. The salesman who resents the extra effort required to put sales helps of every type and description to effective use is simply doing it the hard way. The salesman who scoffs at the value of advertising has probably never tried the uphill grind of trying to sell unadvertised merchandise.

Marketing machinery has many parts, and they must all fit and function together. Personal selling is the spearhead, but it can never be the entire machine.



The CASE THAT CUTS WASTE

in

BOTTLE BREAKAGE • MILK LOSS
REFRIGERATION EXPENSE
TRANSPORTATION COSTS
... LESS GAS, LESS TIRES
LESS TRUCK UPKEEP

From experience up-to-date users believe the life expectancy is 10 years or over.

Saves labor in the plant—add up all these and you show BIG PROFITS in your YEAR-END STATEMENTS.

Why not change your numerous EXPENSE DOLLARS into PROFIT DOLLARS by specifying Erickson Aluminum Cases on all your replacements.

Manufactured by
C. E. ERICKSON CO., INC.
Des Moines 7, Iowa
Sales Representatives
REYNOLDS METALS CO.
Richmond, Va.

M. J. KLUGER

Accounting

by M. J. Kluger

Jim Kluger, specialist in dairy accounting, conducts his exclusive column in the "American Milk Review" each month. If you have an accounting problem or simply an accounting question write to Mr. Kluger at Kapleau, Kluger & Company, 1414 South Penn Square, Philadelphia, Pa. He'll do his best to give you the straight dope.

QUESTION NO. 1 — I have been advised to depreciate my plant equipment on a production unit basis. Just how would I go about doing this? Would the income tax department allow this?

ANSWER NO. 1—Depreciating equipment on the basis of units produced or processed applies the theory that the useful life of a piece of equipment depends more on the actual number of units processed than on the mere passage of time. For instance, you might judge that a certain type and make of bottle filler is good for about some 30,000,000 bottles over its useful life. The manufacturer of the filler would help you estimate this. Assume that the filler cost $2,000 and that it has a residual or scrap value of $500. That would mean you would have to recover $1,500 over its useful life. By dividing $1,500 by 30,000 you would arrive at the depreciation per 1,000 bottles filled, viz, $.05 per thousand. Now, if you filled, say, 120,000 bottles last month, your depreciation charge for the filler would be 120 × $.05, or $6.00 for that month, and so on for all other months. In the straight-line method of depreciation, you would divide the $1,500 to be recovered by the estimated life in years, say 17 years, which would give you a charge per year of $8.24, or a charge per month of $7.35. Under the unit-of-production basis, the monthly and yearly depreciation charges would vary, while under the straight-line method the charges would remain constant.

For small and medium size dairies, and for large ones under most conditions, there is hardly any justification for the unit-of-production method. The straight-line method is much simpler to use and for most practical purposes just as accurate. As for the income tax angle, the Bureau does recognize different methods of computing depreciation. As in many other income tax problems, the test is the "reasonableness" of the amount. The Bureau has certain guides to go by for just about any piece of equipment ever built and it applies those guides as a starting point. For example, a bottle filler's useful life is, according to Bureau standards, about 17 years. On the hypothesis of a $1,500 recoverable cost for a filler, if the annual depreciation charge is in the neighborhood of $90.00, no matter what method is used, it will probably be allowed. Unless prior permission to use the unit-of-production method is obtained, however, the Bureau would not allow under depreciation (by its standards) in one year to be offset by a greater amount in an ensuing year, as might easily be the case where the unit of production method is used.

QUESTION NO. 2 — In some years our bad debts expense is negligible, while in others it assumes large proportions. How can we correct this? Also, is bad debts a selling or a general expense?

ANSWER NO. 2 — By "correcting" the condition, I assume you mean accounting-wise so as to spread the expense more equitably over different years. There are two accepted methods for bad debt accounting. The first is to charge off the debt when it is actually determined to be worthless. You apparently use this method. The second method is to accumulate a reserve by monthly or yearly charges to expense. The second method is a much better one where a large volume of small accounts receivable is carried, as is done by most milk dealers. The "reserve" method of accounting for bad debts assumes that a certain portion of each year's sales will prove uncollectable. Just which ones will be, nobody knows, so a certain percentage is estimated. This estimated percentage will have to be corrected from time to time as dictated by experience, but a more or less average rate is 3/10 of 1%. For example, if your total sales on account for 1949 are $500,000, your bad debts charge for the year will be $1,500, and so on for subsequent years. For bookkeeping purposes, the charge or debit will be to "Bad Debts Expense" and the credit will be to "Reserve for Bad Debts". When a debt is actually determined to be worthless, "Accounts Receivable" is credited, and "Reserve for Bad Debts" is debited. In this way, the cost of bad debts is more equitably spread over the years, thus, one year is less likely to be burdened with expenses that properly belong in prior years. "Accounts Receivable" would appear on the balance sheet:

Accounts Receivable	$30,000
Less: Reserve for Bad Debts	1,500
	$28,500

A bad debt written off and subsequently recovered is credited to "Reserve for Bad Debts" and the next yearly charge reduced by the amounts so recovered. Income tax-wise, either method of accounting is acceptable, but a change over from one method to the other must have prior approval of the Bureau of Internal Revenue.

Opinion is divided as to whether bad debts expense is a selling expense or a general expense. The sales department will say that the office is negligent in its collecting efforts (after the account is out

of the driver-salesman's hands) while the office will claim that the sales department should use more discretion in to whom it sells. Be that as it may, the better classification for bad debts expense seems to be 'general expense" and it is usually so set up on the profit and loss statement.

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ESKIMO PRESS PLEASE COPY

Fargo, N. D. – "Don't let cold weather dampen your ardor for ice cream!"

That is the seasonal message from the North Dakota dairy industry to youngsters, oldsters and the in-between group which still admits to a sweet tooth.

Eating this taste-appealing, nutritious food is such a whole-hearted American habit that it defies changes in weather or season. What is better on a crisp autumn evening than a Hot Fudge Sundae? What's wrong with apple pie a la mode? Doesn't ice cream in your deep freeze suggest the answer to that Sunday-supper problem?

Scientists have taken a look at this cold weather ice cream thing, too. Dr. Ancel Keys of the University of Minnesota, used a group of college men as guinea pigs and reports that ice cream affects the body temperature but slightly; in fact to a scarcely noticeable degree. The old belief of "ice cream making you cold in cold weather" is a bunch of nonsense, the scientist learned.

Dr. Keys fed his roomful of Joe Colleges all the ice cream they could eat (and that's a lot!), then took skin temperature tests, heart action tests, stomach X-rays and blood samples. He found no particular change in any bodily function or temperature after his testers had filled up on ice cream.

North Dakota Dairy Industries, noting that ice cream consumption drops when cold weather arrives, reminds parents that ice cream is the most palatable form in which essential vitamins can be given to children. It contains the calcium needed for body building, it can be kept in the modern deep freeze as a no-bother dessert for any occasion and deserves as much attention in November as in July.

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COOK CHOCOLATE APPOINTS

Cook Chocolate Co., 4825 South Rockwell St., Chicago 32, Illinois, Processor of Cocoa Beans, announces the appointment of Avery M. Bishoff, Jr. as Manager of their dairy and Ice Cream Division. Mr. Bishoff was formerly employed by Robert A. Johnston Co. of Milwaukee and has been associated in various phases of the dairy and ice cream industry for the past 12 years.

"HABIT FORMING"

***By* C. B. A. (Bill) BRYANT**

Johnson and Johnson, Chicago, Illinois

GOOD HABITS are all recognized as constructive. When things which are good and need to be done each day can be established as a routine action an accomplishment of important magnitude is the result. We in the dairy industry have such a desired "goal" to reach in our work with our producers for the maintaining of the "Highest Quality Milk" at the farm and its handling and transportation to market. The "Habit" to be formed is a simple and easy one. Being simple, however, it will require "work" on the part of all leaders in our industry, from top management down to the fieldmen – milk haulers – and dispensers of supplies at each milk plant. Our simple goal is to have our milk producers frequently mount their filtering media (a disk) from the milk strainer or filtering trough if a filter strip is used, let the foam run off and material dry. This is each milk producer's "own sediment test". It is his "Badge of Merit" if clean as it should be, or if dirty, his Challenge to Make Corrections in his milking methods.

Let all of us who are interested in our Dairy Industry solicit the assistance of all sources of contacts with our producers as our County Agents – Smith Hughes Agriculture teachers – Extension Dairymen of our Universities – Farm Journal Editors – Daily paper Farm section editors – 4H Club and Future Farmer leaders to encourage all producers of milk and cream to use the filter disk in this simple way and help to get our producers to form this "Good Habit" of frequently seeing their "Own Sediment Test." And I predict that in the course of less than five years we will have one of the best quality milk supplies at the farm that could be desired.

Let us get the farmer to form the same "Habit" of paying attention to his disk after filtering as he does to placing it into his strainer before filtering.

"Every Healthy Cows Gives Clean Milk." The filter disk or filter strip or bag should only be used to obstruct this stream of milk taken from the cow as it is poured into a container to be taken to market to be mounted after using to show that all preparations for handling had been well done and the milk was kept clean. This is each farmer's "Own Sediment Test." The filter disk is thus to him as the "blackboard" is to the teacher in the classroom or the tablet of paper to the pupil in school. It is the farmer's recording of his workmanship for handling the quality clean milk his healthy cows have provided for our food supply. This mounting of used filtering material at the farm has a wonderful psychological effect upon the producer. It is so impressive and worth while that our joint efforts to bring about a "Habit Forming" accomplishment would be well worth while.

State Dairy Divisions of their Agricultural Departments in making regulations can be of great help in assisting to make this a "habit" for milk producers. Wisconsin has taken such a stand recently in their State Department of Agriculture, General Order 124, Minimum Standards and Regulations to Prevent the Sale of Insanitary Milk and Cream. I Quote: "The producer shall examine the filter and use it as his own sediment test and as a guide in grading his own production methods."

As Bill Bryant always says, "A filter disk should never be used to remove dirt and make a product acceptable for market. A filter disk always should be used to obstruct a stream of milk taken from a healthy cow (as it is clean) and poured into a clean container to go to market. The disk to be mounted to show that proper care and preparation had been made before milking. As the disk after using is clean, a source of pride for good work done." All are invited to join the crusade to make this a "Habit Forming" goal. Thus in less than five years our milk supply will be of the best quality conceivable.

Milk Output Grows in North Eastern Scotland

Stimulated by Government Activity, Production Has Increased 40 Percent in Last Decade

THE NORTH EAST of Scotland is traditionally the home of the beef breeds and much less prominent as a dairying area. Events in the past ten years have conspired to encourage an expansion of dairying in the areas which were formerly devoted to beef or grain crops and the North East has shared in this trend along with all the Eastern Scottish counties. There are even those who contend that the pendulum has swung too far and that the increased concentration on milk – under the stimulus of Government exhortation and encouragement – is likely to hurt the work of breeding for beef, so long associated with the North East. These views have been put into practical effect by those interested in the beef breeds but even so the output returns for the last full year in the area show that more milk was produced then, than ever before. A comparison with 1938/9 is even more startling and emphasizes how greatly milk production has been increased. In that year the Aberdeen and District Milk Marketing Board, the authority charged with the control of milk supplies in the North East of Scotland handled 9,678,374 gallons. The present year's production is 13,380,997 gallons or approximately 3¾ million gallons higher. This 40.01% increase shows just how responsive the area has been to the Government's call for expanded milk production. The past year was also considerably up on 1947/8 by 1,158,257 gallons or 9.48%.

Shipping Milk Is a Problem

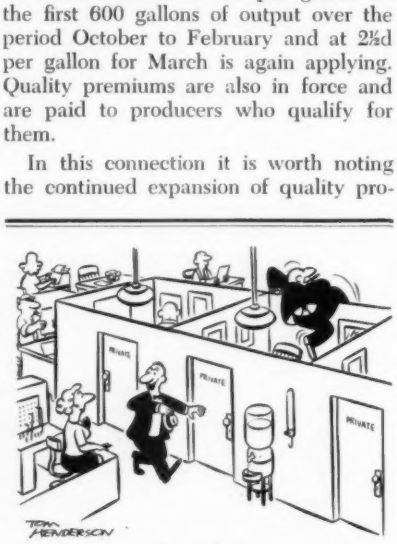
This expansion of production in a relatively less populated area demands that a considerable quantity of the milk should be shipped to the densely populated industrial areas in the South. After meeting local needs a very considerable bulk of supplies is sent south in conformity with the wishes of the Ministry of Food. This transportation of milk involves a variety of problems including that of railing supplies in hot weather over considerable distances. British Railways, the Aberdeen and District Board and the Scottish Milk Marketing Board (into whose territory much of the surplus North East milk is freighted) have cooperated to organize fast services and insulated road rail tanks of 2000 gallon capacity are used on long distance runs such as that from Aberdeen, Edinburgh. Road services are also used extensively and successfully. Assuming a continued high volume of output from this part of the country and a similar high level in the other areas the situation has been visualised where it may become impractical to send liquid supplies from the North East to the Scottish Milk Marketing Board area – unless manufacturing facilities are considerably expanded there. An alternative prospect is that a manufacturing industry may have to be developed in the North East to process surplus supplies.

That stage has not been reached as yet; all the milk produced last year went in liquid sales. But the tremendous national expansion of production makes it possible that some manufacturing may become necessary in those areas – such as the North East – where production has boomed beyond the immediate local needs.

Method of Pricing

The financial aspects of production in the area are as follows. Weighted average price over the year (excluding the 600 gallon Bonus) was 28.326d as against the 27.610d per gallon in the Scottish Milk Marketing Board area. The Winter Production Bonus of 3d per gallon on the first 600 gallons of output over the period October to February and at 2½d per gallon for March is again applying. Quality premiums are also in force and are paid to producers who qualify for them.

In this connection it is worth noting the continued expansion of quality production. Designated Milk represents 71.73% of the total milk controlled. That 71.73% is made up of 46.81% T.T. and 24.92% Standard. A point which the Board raises is the reluctance of the average consumer to pay more for quality milk and the fact that only 1.44% of the total annual output of quality milk is sold as such.



"I'm Mr. Webb's brother-in-law. I believe he's expecting me"

COPYRIGHT 1949 CARTOONS OF THE MONTH

Two major projects which are being actively advanced by the Board at this time are the expansion of grass drying facilities and the operation of an artificial insemination centre in the area. The North East of Scotland has considerable scope in the grass drying sphere and has indeed been very active to date in this connection. A recent conference organised by the North of Scotland College of Agriculture and supported by all the progressive bodies in the area organised a series of visits and discussions during which the importance of grass production and grass conservation was fully ventilated. Several independent grass drying units have been established in the area and there is every indication that the younger farmers especially are taking a scientific interest in the value of grass, as a crop and as a feed.

The Board carried out an experiment with Scottish Agricultural Industries Ltd. at Pitmedden, starting on May 9th, 1949. Some 350 acres of grass were offered by local producers and by the end of June 1949 the yield of dried grass amounted to 360 tons. This preliminary assessment measures satisfactorily against comparable undertakings and there is satisfaction that the work done in the area is on sound and progressive lines. Grass dried at this plant has been sold at the price of £22 per ton. Whether the Board will continue in this field or leave the work to individual concerns or groups remains to be determined at the present time.

Artificial Insemination Service

In the same way the Board has made very considerable progress with its plans to provide an artificial insemination service. The Centre at Chapel Croft, Craibstone is now completed and an early start to the Service is intended. There are to be four bulls available, two Ayrshires and two Friesians representative of the best qualities of the breeds. The very rigid controls insisted upon by the Department of Agriculture (and rightly so in view of the potential dangers linked to the advantages of artificial insemination) are not opposed but the Board has drawn attention to the fact that the Government has apparently defeated its own ends by limiting the price which can be paid for suitable animals for this purpose. Some concession has been reached on this sub-

ject as a result of these representations and the scheme is now ready for an early start.

In other directions the Board and producers in this area have maintained a progressive outlook with regard to plant and premises. New equipment has been introduced steadily into the Board's own premises and those of producer members over the past few years and some of the most modern dairies and dairy farms are to be found in this part of the country. The newcomers to the dairy industry — and they are largely farmers who already had a certain interest in dairying although not to the exclusion of other interests — have brought the traditional skill and energy of the North East to assist in the tremendous expansion of milk production which stands to the Board's credit.

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IT'S NOT ELMER — IT'S OSCAR

Elsie the Cow's un-cowbwebby approach to all worldly matters again has won her top honors — this time in the field of financial advertising. To The Borden Company has gone the Financial World's coveted silver "Oscar" award for the best annual report advertisement published by any company this year. The company has used Elsie and

Stuart Peabody, director of advertising for Borden's accepts Financial World's award for best annual report advertisement from Weston Smith, publisher of Financial World.

her family for only five years to tell the annual report story in their usual chatty fashion. Ad format and media were the same as for Borden's product advertising.

Stuart Peabody, assistant vice president and director of advertising for Borden's accepted the award and two others from Weston Smith, publisher of Financial World, at the recent (October 31) awards banquet in New York City.

Borden's also received a bronze "Oscar" for the "Best of Industrials" for annual report advertising and was cited for putting out the second best annual report in the dairy industry. This marks the sixth consecutive year the company has been honored by Financial World.

This year's judging committee consisted of Dr. Lewis Haney, professor of economics at New York University, chairman; Dr. Glenn Griswold, editor and publisher of Public Relations News; Sylvia F. Porter, financial editor of the New York Post; Elmer C. Walzer, financial editor of United Press; Paul Carlyle, executive vice president of Van Diver & Carlyle, Inc.; Dr. B. Bernard Greidinger, professor of accounting, New York University; and Peter Helck, artist and illustrator.

The winning Elsie advertisement ran in four colors in general weekly magazines.

IAICM REELECTS OFFICERS

All officers of the Association were reelected — G. S. McKenzie, Creameries of America, Inc., Los Angeles, California, President; Ridgway Kennedy, Jr., Abbotts Dairies, Inc., Philadelphia, Pa., Vice President; I. N. Hagan, I. N. Hagan Ice Cream Co., Uniontown, Pa., Treasurer; O'Neal M. Johnson, IAICM, Washington, D. C., Assistant Treasurer, and Robert C. Hibben, IAICM, Washington, D. C., Executive Secretary.

Superior SEAMLESS-WELD DAIRY PAILS

For long range economy, dairymen know it pays to buy Superior . . . quality dairy pails that last longer.

Heavy, dent-resisting cylinders of cold-reduced steel. • Electrically fused sanitary side seams. • Triple tinned for smoothness. • Electrically welded bottoms — no "black steel" contacts. • Extended bail for extra sanitation.

WRITE *for catalog describing our complete line of Metal Dairyware.*

SUPERIOR METAL PRODUCTS COMPANY

JOHN WOOD Co. Founded 1857

509 Front Avenue • St. Paul 3, Minnesota

COLIFORM, THEIR SIGNIFICANCE AND CONTROL IN ICE CREAM MAKING

G. W. SHADWICK, *Beatrice Foods Company, Chicago, Illinois*

THE COLIFORM organisms are aerobic and faculative anaerobic. Gram negative, non-spore-forming bacteria which ferment lactose with gas production. As is indicated by this definition, they may grow equally well in the presence of or in the absence of air. The fact that they are not spore forming suggests that they are not resistant to high temperatures. They are normally very easily destroyed by pasteurization temperatures.

There are references in literature in which some coliform bacteria have survived pasteurizing temperatures, but these cases are indeed rare, and for all practical purposes it may be considered that properly pasteurized ice cream and milk products should be free of them unless, of course, they have been contaminated after pasteurization. These organisms being lactose fermenters will grow readily in milk or cream and even in residual amounts of milk products left in utensils, vats, pipe lines or other plant equipment which have not been properly cleaned and sanitized. These organisms also are found in many places in nature. They grow in the soil, on feeds, on bedding, on floors, etc. They grow in the intestinal tract of animals and man. They may be present in great numbers on milk stone or residual materials left in dead ends of equipment or sanitary pipe lines. Some even grow in the interior of cows udders. Being so generally present in the environment of the dairy, it is not surprising that they are commonly present in raw dairy products – even in products of good quality.

Significance

It should be emphasized that the presence of coliform bacteria does not necessarily indicate a health hazard as they are not pathogenic. Nor does it necessarily indicate contamination with fecal material. The relative numbers in a product may, however, indicate the care and sanitation exercised in handling and processing.

There has been a tendency to interpret their presence as indicating fecal contamination and for that reason also indicating the possible contamination with human pathogenic or disease bearing bacteria. This interpretation cannot be rightfully made because of the many possible sources from which they may enter our products and also the fact that milk products are an excellent medium for their growth. Health department personnel commonly examine water supplies or organisms of this group and when organisms belonging to the Escherichia genus are found, the interpretation is that the water examined is polluted with organisms probably of fecal origin. That is probably because they are much easier identified and isolated than are other types which may be of pathogenic origin. This does not mean that the Escherichia are pathogenic but their presence indicates that there probably is pollution with other organisms of similar origin which may be capable of causing disease. This interpretation is correct with water supplies but the situation is entirely different in milk.

BOVULATION RECAPITULATION

It appears that the downward trend in dairy cattle numbers has been checked and in some areas has started upward. Dairy cow numbers in 1950 are expected to total 23,000,000.

The slow upward trend in rate of milk production is likely to continue with a possible yield of 5,174 pounds per cow as compared to 5,150 pounds in 1949. The combination of cow numbers and milk yield per cow will result in a total production about one percent higher than in 1949, or 119 billion pounds.

Even though feed supplies are large, milk-feed price ratios may be less favorable than last year, compared especially to the first half of 1949. However, it is anticipated that feeding rates will not change materially.

Water does not come in contact with all the possibilities of contamination with these organisms as does milk – for example, soil, dust, utensils, feeds, etc. Air currents carry dust everywhere and, unless precautions are taken to destroy them, coliform bacteria can be found almost anywhere. Furthermore, these organisms do not grow in water as they do in milk. It is important to make this distinction, for people in milk sanitation work often have to explain why the coliform organisms in milk cannot be interpreted the same as those found in water.

Presence in Finished Products

I have briefly talked about their presence and sources in raw supplies but "How do they get into the finished pasteurized product?" is the question.

Assuming that we have carried out our processing properly, the product leaving the pasteurizer is free of coliform bacteria. This is not true one hundred per cent. Actually a very few do live over but they are so few in number that only very occasionally will they be observed in routine coliform examinations or counts. In these routine counts, we examine perhaps five samples of one milliliter each of the product and finding no indications of coliforms, we usually report the product as negative coli. This may not be true; if we had examined a larger portion of the product we may have found a very few. After all, a few milliliters of the products is a very small portion of the total amount in any batch and unless they are unusually evenly distributed, we do not find them in every sample analyzed.

Now assuming that the Coliform count is negative in the pasteurized mix, it moves on from the pasteurizer to the rest of the processing equipment – homogenizer, pumps, cooler, lines, storage vats, freezer, packages, etc., where there is always a possibility of contamination. This contamination may well include coliform types of bacteria.

Of course, if all the equipment after pasteurization has been properly washed and sterilized and all handling of packages was carefully carried out, the prod-

uct should still show a negative coliform count. If, however, on the other hand the equipment was not properly washed and sterilized after assembly or that the equipment and packages were so handled as to become contaminated, the finished product would pick up this contamination which would quite likely contain bacteria of the coliform group and would also be apt to affect the total counts of the product as well. If this were the case, it is quite possible that the total count would be higher than at the pasteurizer and that the negative indicative test for coliform would then become positive. This unclean equipment or careless handling would, by the numbers of bacteria present, be some indication of the extent of the contamination.

Control of Coliform Organisms

Careful attention to the condition of the equipment and pipe lines to be sure that there are no broken seams in vats, coolers, pipe lines or other equipment and proper washing, rinsing and sterilizing is of the utmost importance in the control of coliform types of organisms. If the equipment is not clean, it cannot be rendered coli-free by practical plant sterilization methods.

In flushing the system with a sterilizing solution, it is important that all surfaces be completely treated. Horizontal pipe lines will not be thoroughly sterilized unless completely filled with the solution. Valves in the forward position during the sterilizing treatment and then later closed will allow the product to come in contact with an unsterilized surface. Hand contact with sanitary lines, gaskets, etc., all offer chances for contamination. We feel that it is good practice to start pumping the sterilizing solution through the entire system with the pipe line connections and valves loose, then follow along the direction of flow and tighten the lines and shift valves to on and off positions to allow the lines to fill completely and to sterilize all surfaces of the valves. Where hand contact is necessary, convenient hand washing and sterilizing facilities should be provided. Hand contacts with surfaces which are to come in contact with the product should be minimized, and the hands carefully sterilized before such contact is made.

Flies and dust may contaminate the equipment if not properly covered or protected. Cold surfaces often are moist because of condensation and the organisms there may grow and if vats or cooler troughs are not protected from condensation drip, the organisms may enter the pasteurized products by that means. Pouring from cans directly into vats or hoppers can cause contamination. Often, cans used for storage of mix ingredients are not properly washed or sterilized before their use and they contaminate the product when they are used.

Nesting of packages for the finshed product may be a source of contamination as may the handling of them by personnel making them up or by handling with unclean hands by personnel filling the packages at the freezer. Careful hand washing and sterilizing of the hands before starting work in the morning, after rest periods and after lunch will minimize this type of contamination.

The laboratory can be a very efficient tool in eliminating coliform types of organisms in the pasteurized product. Line run analyses to find points of contamination is a valuable asset to the plant operation. We prefer to take samples at various stages of the operation to complete this picture; namely, pasteurizer, cooler, homogenizer, storage vats, usage tanks, freezers, packages, etc. In many instances, points or approximate points of contamination can be determined and careful follow-up at these points will usually disclose the cause of contamination.

Ingredients added to the ice cream after pasteurization, such as fruits and nuts, often contaminate the pasteurized products with coliform bacteria. All of these ingredients must be checked for their quality and the possibility of carrying coliform bacteria. Plate counts, coliform counts, yeast and mold counts will be found very advantageous in determining the sanitary quality of these ingredients.

It might be well to list briefly the suggested steps in eliminating coliform bacteria from ice cream. . . .

Proper Pasteurization

(a) Pasteurizers be equipped with indicating and recording thermometers.

(b) That special attention be given to times and temperatures of method used.

(c) Check pasteurization efficiency of pasteurization by the phosphatase and coliform tests on samples direct from the pasteurizer.

Clean Equipment

(a) Use good cleaners and plenty of elbow grease.

(b) Clean as soon as possible to eliminate drying on of product.

(c) Eliminate or remove all milkstone. Special attention should be paid to the hot side of the operation where burning on is cause of much milkstone and subsequent contamination.

(d) Special attention should be paid to horizontal coil vats with stuffing boxes and agitators in storage vats. Stuffing boxes are often a source of coli contamination.

(e) Checks vats, homogenizers, freezers and pipe line fittings for open or rough seams. Repair if found. This is cause of many sources of coli.

(f) Completely dismantle and wash ALL equipments after each day's operation. Provide adequate dismantling equipment, portable trucks for pipes and parts, wash tanks, cleaning compounds, brushes, etc.

(g) Reassemble equipment after washing and rinsing.

(h) Plant foreman or supervisor of each shift should follow up cleaning operations with routine physical inspection.

Sterilize Cleaned Equipment and Hands

(a) Thorough sterilization of all equipment after it has been assembled just prior to use. Hot water 180° F. to 190° F. for 10 minutes' exposure or by using sterilizing solution containing at least 100 P.P.M. after it has been pumped through the system as mentioned in the text.

(b) Thorough sterilization of all manually manipulated changes in lines, cans, valves, etc.

(c) Provide sterilization facilities for freezer operators, package assemblers, packagers and see that they are used before starting work in morning, after lunch and rest periods.

Ingredients

(a) Careful packaging to prevent recontamination.

(b) Clean packages.

(c) Clean hands of workers.

(d) Protections of finished package to prevent damage or contamination before delivered to the consumer.

This paper was presented by Mr. Shadwick at the 44th Annual meeting of the International Association of Ice Cream Manufacturers at Atlantic City in October of last year.

Hoosier Hero Honored

Governor Henry F. Schricker of Indiana last month (October 26) presented the Pasteur Gold Medal — the milk industry's highest award for distinguished public service — to a heroic Borden milkman who rescued four Indianapolis youngsters from a burning house.

William J. Becktel, 34, accepted the award from the governor during a medal-presentation dinner attended by employees of Borden's Capitol Dairies in Indianapolis, where the heroic milkman is employed as a route salesman. State and city officials sent Becktel congratulatory messages, and employees of Capitol Dairies toasted him as the first Hoosier to be named Milkman Hero of the Year. Leonard J. Tamblyn, Borden local plant manager, was master of ceremonies.

"Americans are modest about their own accomplishments," Governor Schricker said. "But we are quick to recognize the virtues of others. We certainly want to give credit to this young man who performed a service beyond the call of duty. He's a real Hoosier and a real American. He met a crisis when the occasion demanded. Then he modestly went about his business of delivering milk."

The Pasteur Gold Medal is the top annual award presented by the Milk Industry Foundation on behalf of the country's 50,000 dairy firms. Becktel was selected for the honor out of a large group of candidates nominated from all parts of the country. He is the third Borden milkman to receive the Gold Medal since the Pasteur awards were established in 1937.

Earlier this year, Walter Robertson, an employee of Borden's Farm Products Company in New York City, received one of twelve Bronze Medals awarded this year. He saved the life of a two-month-old baby by administering artificial respiration.

Becktel was serving his customers on the morning of December 23, 1948, when he heard a piercing scream and saw smoke coming from a two-story frame house, the residence of Mr. and Mrs. Marion Willis. Dropping his milk carrier, he ran into the house. Downstairs, he found Odessa, the Willis' 17-year-old daughter, who told him "the baby is upstairs." He entered the flaming bedroom, found the Willis' nine-months-old granddaughter on the bed, and carried the infant to a neighbor's house across the street.

Returning twice more to the burning house, Becktel rescued Samuel, the two-year-old son of the Willis', who were not at home at the time, and then Odessa and Louise, her 15-year-old sister.

NATIONAL DAIRY PROMOTES

Gordon Edwards, for 13 years Comptroller of the Midwestern District of National Dairy Products Corporation has been appointed assistant treasurer of the Kraft Foods Company, according to an announcement by G. C. Pound, Executive Vice-President of Kraft. He started his new duties November 1.

Edwards started work for National Dairy in 1927 with another Division of National Dairy, Chevy Chase Dairy, Washington, D. C., and was transferred to the New York headquarters of National Dairy in 1935 prior to becoming Comptroller of the Midwestern District in the fall of 1936.

A graduate of George Washington University, Washington, D. C., he is a member of the Comptrollers Institute of America.

●

NEW SMITH-LEE PRESIDENT

At a recent meeting of the Board of Directors of Smith-Lee Company, Oneida, N. Y., M. C. Strickland was elected a Board Member and appointed President and Treasurer. James P. Lewis was elected Vice-President. This action followed the recent death of Smith-Lee's former President, Harvey Smith.

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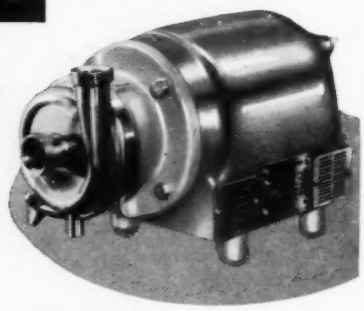

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BILLION DOLLAR RAT HOLE

(Continued from Page 28)

fected that has been in use long enough to warrant consideration as a new ally in the battle against rust.

Years of research were necessary to bring the fish-oil coating to its present efficiency, because it was, of course, necessary to develop a process by which the objectionable fish oil odor could be purged from the oil itself, and to maintain constant control of drying. It was finally made to dry to touch within a period of four to eight hours, and to be applicable to a surface *already* rusty.

While the formula is not known, it has been determined that it contains a high percentage of fish oil. Treated to remove the odor, and pre-oxidized to hasten drying, the oil still retains its rust inhibiting characteristics. It may be applied at any temperature above forty-five degrees Fahrenheit, dries readily, and is reported to leave a firm elastic surface that will take any conventional paint.

An additional feature of importance is its ability to carry pigment in suspension, enabling this product to function as a final coat under conditions that do not require a special finishing coat. As an efficiency vehicle, it successfully passes the requirements of the aluminum powder and paste manufacturer. Uses for which this product has been favorably tested are the protection of outdoor and indoor metal construction, shop and field costs for structural steel, and tank painting with or without pigment or aluminum flakes.

Penetrates the Rust

Another advantage of the fish oil base coating is said to be its peculiar ability to penetrate the pores of the metal and carry along the pigment to the clean metal under-surface; that it expells corrosive elements which cause rust deterioration, and that the oil and pigment merge the rust into the film of the coating. Further, that the result of all this is a dense, air tight rust prohibitive coating which will stop and prevent any further rust.

In order to bring to bear the protective powers of fish oil to each type of corrosion, it has been necessary to combine the base oil with many pigments to produce coatings in various color to meet the needs of our transportation, agricultural, and industrial operations in varying utility and climatic requirements.

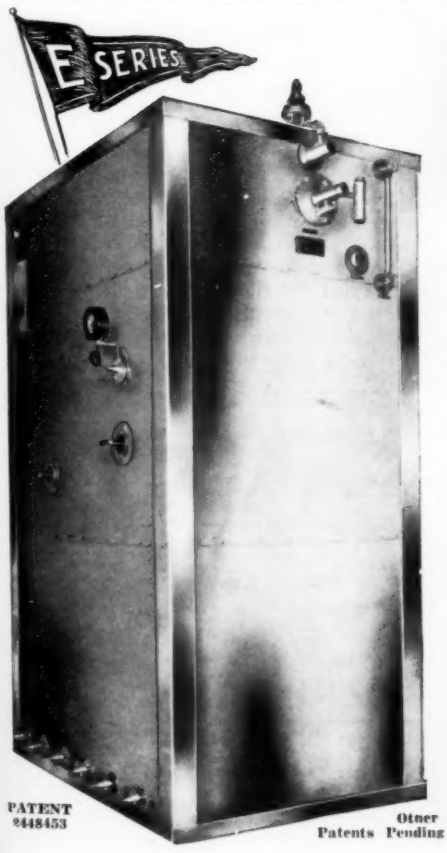
We have only slowly come to realize to what extent corrosion eats into profits and raises costs, especially in connection with the all-important matter of replacement of equipment, facilities and machinery. For a long time we thought we had to accept rust—and its trail of destruction – as a natural hazard – something like depreciation through every-day use. And, while the most modern and progressive methods are applied to general equipment and machinery upkeep, there is a surprisingly large percentage of instances where the rust factor is minimized or even ignored.

No amortization calculation is reliable which does not take into careful consideration: (a) rate of depreciation through corrosion (b) measures to reduce or prevent rate of deterioration through rust and (c) cost of such preventative measures – as calculated against such loss.

●

N. Y. NOVEMBER PRICE

New York—The New York milkshed's 49,200 dairy farmers will be paid for their November milk deliveries before Christmas according to a late plan announced by Dr. C. J. Blanford, Market Administrator of the New York metropolitan milk marketing area. The Administrator has requested all handlers to file reports of their November operations not later than December 8, two days before the deadline under the federal and state marketing orders, so that his office can compute and announce the actual November uniform price before December 14.



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WATER AND ALKALI REQUIRED TO WASH MILK BOTTLES

By **P. S. LUCAS**

Section of Dairying, Michigan Agricultural Experiment Station

NO OTHER OPERATION in the milk plant, unless it is that of operating the refrigerating system, makes use of water to the extent that is required for the washing of milk bottles. In the management of a milk plant or in consideration of the erection of such a plant it is well, therefore, to know the approximate demands for water in order that provision may be made to supply the peak quantity required.

In the following study, a four-row, brush-type Meyer Dumore Jr. bottle washer was used and quart, pint and half-pint standard milk bottles were washed in numbers specified in Tables 1, 2, and 3. The water used was metered, readings being made at the beginning and at the end of each day's run. The plant supplying the data possesses two equal size water softeners, each of which supplied the soft water used by the washer on alternate days. The figures secured for amounts of water used per bottle may be used advantageously also as a guide for purchase of softeners of adequate capacity.

The initial charge of the bottle washer was 526 gallons of water and 150 pounds of flake caustic. Records were kept of the alkali as added at intervals and the strength of the washing solution at the start and end of the day's operation. In Table 3, columns 1, 2, and 3 under "strength of solution" show respectively, total alkalinity, active caustic strength, and soda ash.

Soft Water Used In Tests

The figures supplied on the amount of caustic required to wash a quart bottle would not be applicable in case hard water had been used, for the reason that soft water was used in these trials. The amount of detergent required to soften water of varying degrees of hardness may easily be ascertained, however, and the amount added to those values secured in this study. Also, values may vary in proportion to the value of the detergent as a water softener.

The trial periods used in ascertaining the amounts of water and alkali used covered intervals of 68, 33, 26, and 14 days. In the course of normal operations the sizes of bottles washed included quarts, pints, and half-pints and the numbers of these have been listed. In order that these types might be converted to their equivalent of quarts, Baten and Lucas[1] measured the total, inside and outside, surface exposed to the action of the detergent. On the basis of surface the three types of bottles washed have been converted into a surface equivalent for quarts. Thus the combined surface of 1,321 quart, 254 pint, and 1,015 half-pint milk bottles is equivalent to the combined surface of 1,895 quart milk bottles. These equivalents were obtained by multiplying the number of pint bottles by 0.62 and the half-pints by 0.41. These factors were secured by actual measurement of the surfaces of the three sizes of standard milk bottles, these being 200.4, 123.88, and 82.33 square inches, respectively, for quart, pint, and half-pint bottles.

Records have been kept at intervals during the past three years of numbers of bottles washed, and the amounts of soft water and of alkali used. The strength of a cleaner is reduced in proportions to its value as a water softener and in proportion to the degree of hardness of the water.

For the sake of space, figures for the trial periods of the first three just mentioned were totaled. During these periods a total of equivalent quarts amounting to 265,086.5 were washed. A summation of the several pages of data is given in Table 1.

The calculations shows that with the type of bottle washer used and using soft water, 0.86 gallon of water was used to wash one quart bottle or its equivalent. This is much greater than is commonly considered, and accounts in part for the usually underestimated amount of water required for a dairy plant. The amount will vary with the type of water used, and it may serve as

IT WORKS IN A PINCH

Current favorite yarn around here is how two Ozark farmers used the vacuum power-braking system on their truck to milk their cows.

It happened when storms snapped electric lines near Nevada, Mo., leaving farmers Jay Jones and Merle Collins without power to operate their milking machines. The farmers parked their truck alongside the cow barn, hooked the milking machine hose where the truck's vacuum power normally is connected, and let the engine idle.

It worked. Vacuum from the intake manifold provided all the power needed to operate the milking machines.

TABLE 1

WATER AND ALKALI USED TO WASH MILK BOTTLES

Water used: gallons	Alkali used: pounds	Bottles washed: quart equivalents
228.847	447	265,086.5

TABLE 2

SHOWING WATER AND ALKALI USED TO WASH MILK BOTTLES WITHOUT ALKALI ADDITIONS

Day	Water used: gal.	Alkali used: lb.	Bottles washed: qt.	pt.	half-pt.	Equiv. qt.
1	1.770	150	1.500	274	1,025	2,090.2
2	1.550	.....	1.246	328	1,140	1,916.8
3	1.780	.....	1.476	305	1,215	2,163.3
4	1.150	.....	1.328	325	825	1,867.8
5	1.210	.....	1,008	91	637	1,325.6
6	1.760	.....	1.387	420	1,364	2,206.6
7	1.740	.....	1.572	322	1,209	2,267.3
8	1.730	.....	1.315	238	1,134	1,927.5
9	1.690	.....	1.224	333	1,388	1,999.6
10	1.040	.....	1.628	444	1,270	2,424.0
11	1.350	.....	1.296	157	1,065	1,830.0
12	1.670	.....	1.212	78	836	1,603.2
13	1.970	.....	1.516	566	1,183	2,348.2
14	2.200	.....	1.440	313	1,336	2,181.9
	22.610	.....	.....	.....	.....	28,152.0

an index of water-softening capacities required in case a plant may consider installation of softeners.

It should be noted that the last period of record keeping covered 14 days only.

14 Days Without Recharging

The bottle washer was charged with the standard amount of alkali and run for 14 days without recharging. A pH of the washing solution was made at the end of each day's run. As the pH approached acidity the figures show the gradual lessening alkalinity of the washing solution and, therefore, its gradual weakening through amounts used up in emulsifying fat and neutralization by dairy waste.

The frequency of changing the water in the bottle washing machine affects considerably the amount of cleaner required per bottle. In the same 68-, 33-, 26-, and 14-day periods the amounts of special alkali required per bottle were 0.0336, 0.048, 0.072, and 0.0848 ounce respectively. This means an increasing ratio from 100, to 143, 214, and 282 percent. During the first three trials the strength of the alkali was maintained by frequent small additions; during the last it was permitted to decrease to a point where it became too low for efficient use. Using the first three periods for calculation of alkali required per bottle gives a value of 0.03 ounce per quart bottle. Daily skimming of the oily film from the washer solution and provision of a false bottom in the solution tank to prevent agitation of settled out heavy sediment will permit longer use of the cleaning solution.

PENN STATE SHORT COURSE

The annual Penn State Short Course in Market Milk and Milk Supervision will be offered in the two-week period from February 6 to February 18, 1950.

Applications for admission to the course should be addressed to A. L. Beam, Director of Short Courses, School of Agriculture, State College, Pennsylvania.

[1]W. D. Baten and P. S. Lucas: A Method For Surface Area Measurement of Milk Bottles. J. of Dairy Sc., August, 1942, Vol. XXV, No. 8, Pages 663-665.

TABLE 3
DECLINE IN ALKALINE STRENGTH DURING USE WHEN ALKALI WAS NOT ADDED AS NEEDED

		Strength of solution									
		At start of washing			At end of washing			pH			
Day	Water used gal.	Total alkalinity	Active caustic	Soda ash	Total alkalinity	Active caustic	Soda ash	Start	End	Corrected end pH reading	Quart bottle equivalent
1	1.770	4.05	4.00	.07	4.05	4.00	.07	11.20	10.95	12.15	2.090.2
2	1.550	4.05	4.00	.07	3.95	3.85	.12	10.95	10.95	12.15	1.916.8
3	1.780	3.95	3.85	.12	3.90	3.80	.20	10.95	10.91	12.11	2.163.3
4	1.150	3.90	3.80	.20	3.80	3.68	.20	10.90	10.91	12.11	1.867.8
5	1.210	3.80	3.68	.20	3.75	3.63	.30	10.90	10.85	11.55	1.325.6
6	1.760	3.70	3.63	.30	3.60	3.48	.32	10.85	10.90	12.15	2.206.6
7	1.740	3.60	3.48	.32	3.57	3.36	.38	10.90	10.92	12.17	2.267.3
8	1.730	3.51	3.36	.38	3.50	3.35	.40	10.90	10.85	11.75	1.927.5
9	1.690	3.50	3.36	.40	3.50	3.33	.41	10.85	10.85	11.75	1.999.6
10	1.040	3.50	3.30	.41	3.40	3.20	.50	10.86	10.88	11.78	2.424.0
11	1.350	3.40	3.20	.55	3.35	3.15	.50	10.85	10.80	11.60	1.830.0
12	1.670	3.35	3.15	.55	3.30	3.05	.53	10.80	10.75	11.40	1.603.2
13	1.970	3.27	3.04	.52	3.20	2.95	.55	10.75	10.80	11.60	2.348.2
14	2.200	3.22	2.95	.55	3.10	2.90	.56	10.75	10.80	11.60	2.181.9

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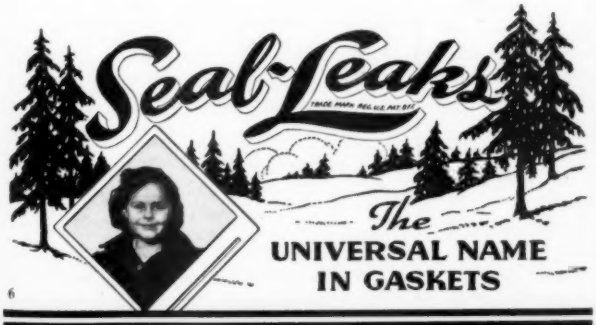

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Dairy Equipment Men Hold Fall Meeting

Ford Official Sees Labor as Key to Favorable Business—24 Companies Represented at Meeting

THE FALL MEETING of the National Association of Dairy Equipment Manufacturers was held October 17-19 at Olympia Fields Country Club, Olympia Fields, Ill. The meeting was presided over by NADEM Chairman David M. Mojonnier of Mojonnier Bros. Co., and was attended by officials and representatives of twenty four companies.

George Hitchings of Ford Motor Company Speaks

A feature of the meeting was an illustrated talk by George Hitchings, Manager of the Economic Analysis Department of the Ford Motor Company who spoke on the subject "General Business Conditions – Economic Outlook." Mr. Hitchings stressed the role of inventory fluctuations as the casual factor in the recent business decline. The underlying stability of our economy currently was illustrated by reference to the present level of activity in the non-industrial sectors of the economy, particularly retail trade and new construction.

He indicated that "The short-run business outlook is favorable, provided the steel and coal strikes are settled shortly. Under these conditions, business activity can be expected to reach the immediate pre-strike levels or slightly above. Restocking in many durable goods' lines will provide a temporary stimulus to business activity. Speculative buying of inventories is unlikely to develop, however, in view of the probable stability in non-agricultural prices." He warned, however, that "If the work stoppages are prolonged, workers will draw down their savings and exhaust their available credit. This would restrict consumer buying in the period beyond the strikes and adversely affect the business outlook."

Dr. E. H. Parfitt Heads Panel Discussion on 3A Standards

Dr. E. H. Parfitt, Director of Sanitary Standards of the Evaporated Milk Association, gave a report and lead a panel discussion on the "Work of Sanitary Standards Subcommittee of the Dairy Industry Committee." Other members of the panel were N. J. Peters of Damrow Bros. Company, G. W. Putnam of The Creamery Package Mfg. Company and H. Fielder of Cherry-Burrell Corporation who could not be present.

Round Table Talks

Round Table Discussions were presided over by O. K. Burrows of Cherry-Burrell Corporation; D. M. Mojonnier of Mojonnier Bros. Co.; and by D. G. Colony of Manton Gaulin Mfg. Co., G. L. Huffman of Ex-Cell-O Corporation and H. L. Miller of Chester Dairy Supply Co.

Fistere Reports Dairy Situation

Charles M. Fistere, Executive Secretary of NADEM, outlined current legislative developments in Washington, and highlighted Dairy Situation Reports received from American Butter Institute, National Cheese Institute, American Dry Milk Institute, Evaporated Milk Association, International Association of Ice Cream Manufacturers, and the Milk Industry Foundation.

Twenty-four Companies Represented

NADEM member companies and their representatives at the Olympia Fields meeting included:

Alloy Products Corp., W. J. Wachowitz, Sr. and W. J. Wachowitz, Jr.; *Alvey Conveyor Manufacturing Company*, E. F. Felber; *Cherry-Burrell Corporation*, D. Burrell, O. K. Burrows, L. R. Hermann and E. L. Slayton; *Chester Dairy Supply Co.*, H. L. Miller; *Chicago, Stainless Equipment Corp.*, A. Bartz, B. O. Breitzke and J. E. Mistarz; *The Creamery Package Mfg. Company*, J. L. Brazee, F. G. Jones E. B. Lehrack, G. W. Putnam and G. E. Wallis; *Damrow Brothers Company*, N. J. Peters and P. P. Weidenbruch; *The De Laval Separator Company*, F. Fleming and W. A. McGill; *Engelke Engineering Co.*, H. G. Engelke; *Ex-Cell-O Corporation*, H. P. Culver and G. L. Huffman; *G & H Products Corporation*, J. Greb; *General Dairy Equipment, Inc.*, G. Lundahl and H. L. Solie; *Girton Manufacturing Company*, P. K. Girton; *The Heil Co.*, G. Pryor and S. Tuttas; *Illinois Creamery Supply Co.*, J. L. Rosen; *Kusel Dairy Equipment Co.*, C. F. Derleth and D. L. Kusel; *Maguire Machinery Co.*, W. R. Maguire; *Manton Gaulin Mfg. Co.*, D. G. Colony; *Mojonnier Bros. Co.*, D. M. Mojonnier; *Specialty Brass Company*, W. J. Anderson and E. H. Kleist; *Stainless & Steel Products Co.*, H. Barron; *Tri-Clover Machine Co.*, R. M. Bode and F. Hinrichs; *Waukesha Foundry Company*, R. E. Cairnes and J. Wright; *R. G. Wright Company, Inc.*, H. P. Faust.

NDC GROWING IN NORTHEAST

1. A new Dairy Council unit is completed in Greater Boston with support of over 85% of producers and dealers and with an estimated budget of $120,000 a year.

2. The Dairy Council of Maine is completed and will start functioning as soon as a director can start work. This is the 54th Dairy Council unit in the U. S.

3. The Dairy Council of Syracuse started last month with support of 93% of producers and dealers. Producers are supporting the entire Milk for Health program.

4. In the Buffalo area 90% of the producers are signed to support the entire Milk for Health program. Starting a Dairy Council unit awaits action by dealers.

5. In the Rochester area producers are 96% signed to support Milk for Health. Starting a Dairy Council awaits only action by one group of dealers.

6. In the Binghamton area the dealers are signed. Starting a Dairy Council awaits action by only one group of producers.

7. In the Capital District the entire Milk for Health program has been approved by producers. Completion of a Dairy Council unit seems imminent.

8. In the Mid-Hudson area Milk for Health has been approved almost 100% by producers. Starting a Dairy Council unit awaits only the dealers agreement.

9. In the New York Milk Shed 15 cooperatives, including Dairymen's League, have voted to support the Milk for Health program when an adequate percentage is pledged. In 39 counties committees are organizing producer support. Not a single county has rejected it. Eight major farm organizations are giving full support to this plan for building fluid milk sales and producer incomes.

PROBLEMS OF THE INDUSTRY

(Continued from Page 22)

detergent, polyoxyethylene sorbitan monolaurate, and 65 ml of 95% ethyl alcohol, and the new mixture is shaken. (B) The other reagent is a standardized anionic detergent, dioctyl sodium phosphate.

"*Procedure.* (1) A well-mixed sample (17.6 ml) of milk is placed in a Babcock milk bottle. (2) Seven ml of solution (A) is placed in the vessel, which is then shaken immediately to mix the contents intimately. (3) Thirteen ml of reagent (B) is added without further shaking so that this last addition forms a layer at the bottom of the container. (4) The container is immersed in a water bath at 180°F. The water level in the bath should be approximately equal to that in the bottle. (5) After 5 min. in the bath, water at 180°F. is added to the Babcock flask until the fluid level reaches the top of the graduated portion. (6) The flask is then set aside at room temperature for 10 min., after which the percentage of fat (as in the Babcock test) is read by subtracting the lower meniscus reading from that of the upper meniscus."

I do not believe that this test is approved for farmers' samples in any state yet, and I am absolutely certain that it is not in New York. The method shows considerable promise but extensive investigational work will be necessary to prove its reliability before it can be adopted as a standard test. Studies of this nature are being conducted at Cornell and a number of other colleges.

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DAIRY TECH GRADS MEET

Urbana, Ill.—One hundred sixty-five alumni of the dairy technology division at the University of Illinois College of Agriculture and their wives returned to the campus for their second annual Homecoming reunion the week end of November 19.

Officers of the alumni organization were re-elected to serve during the ensuing year. Included were Justa Kuebler '31, Downers Grove, Ill., National Pectin Products Co., president; John Pfeffer, San Francisco, vice-president; George Edman, staff member, secretary-treasurer; and Dr. P. H. Tracy '20, head of the division, executive secretary.

Doctor Tracy, noted ice cream authority and past president of the American Dairy Science association, reviewed for the alumni the research work of the division and projected plans for the future. He also presented members of the faculty and members of the student dairy products judging team that recently participated in the national contest.

Eight states were represented by the returning alumni: Illinois, Ohio, Tennessee, Missouri, Georgia, Indiana, Wisconsin and New York.

CONTROLS CATTLE PESTS

Lindane Gives Good Results as Spray against Insects and Skin Disorders

Several thousand New York State dairymen stopped mange mites and lice last year with lindane before these pests stopped their herds, and with each spraying they were able to get good fly control in their barns for three weeks or more during this past season.

That sums up the results of tests and extensive work with dairymen throughout New York State by the Cornell University Agricultural Experiment Station and the State Bureau of Animal Industry. In their 1948 mange and lice control experiments Cornell, researchers under the direction of Prof. H. H. Schwardt and Dr. D. W. Baker sprayed 1500 dairy cows at the rate of 1½ pounds of 25 per cent wettable lindane powder in 100 gallons of water with excellent results. For mange the cows were sprayed twice about 10 days apart with 2 gallons per cow each time. Animals sprayed the first part of November were mange free until March. Calves under 3 months old were not treated. One application of lindane at the same rate gave good lice control for a year. The spray killed the adult lice and the eggs at the same time. Milk tests for residue were favorable.

Based on Cornell recommendations, Dr. Ivan G. Howe, state veterinarian and director of the state bureau of animal industry, began a mange campaign and when it ended last year, more than 100,000 dairy cows had been treated with lindane. Farmers reported that it killed the itch, their cows held flesh and milked better.

During this past season 150 dairy barns were sprayed with lindane by the Cornell entomologists. They found that 8 pounds of 25 per cent wettable lindane powder per 100 gallons of water gave good control for three weeks and then the spray lost its fly-killing power rather quickly. They used about 20 gallons on the average-sized barn.

An emulsifiable form of lindane which was also mixed with water lasted a little longer — 4 weeks of excellent fly control. In comparison, 20 pounds of a 50 per cent wettable methoxychlor powder per 100 gallons of water was almost no good at all for fly control after the second week.

Compared with DDT, lindane is rather expensive, but farmers who have used it say it's worth the money. The comparative cost with methoxychlor is about the same because of the large amount of this product that has to be used.

●

RAISE MONEY FOR MILK SALES

Twenty thousand dairy farmers, in a down-the-road canvass by county Milk For Health committees, are being asked to add their support to the cooperative milk sales program which already includes fifty-five per cent of the producers in the N. Y. Milk Shed.

"Response to the shed-wide organization of Milk For Health, Inc., aimed at selling more fluid milk and thereby increasing the farmers' milk returns, has been strong," declares Harold M. Stanley, member of the board of directors, and secretary of N. Y. State Grange.

"One of our men in Chenango county reports that 96% of the producers to whom he has explained the program have signed authorizations in support of it. In Broome county, farmers delivering to one plant alone are over 70% already. These represent dairymen who have not already signed through their local organizations.

"Our objective of selling more Class I milk, thus holding up the blended pool return to the farmer, is finding vigorous support on all sides," Mr. Stanley said. "This is truly a cooperative effort requiring majority participation."

●

SUPPLEE WINS PR AWARD

Philadelphia — The fourth annual Industrial Relations Award of the Philadelphia Chamber of Commerce was presented tonight to the Supplee-Wills-Jones Milk Co.

Presentation of the award, given "in recognition of the development and maintenance of an effective employer-employee relations program," was made by Ralph Kelly, president of the Chamber of Commerce at the closing dinner-session of a two-day Industrial Relations Conference in the Hotel Warwick.

"Supplee has been chosen to receive this award not merely because of the many extensive programs it has set up to establish and carry out sound employer-employee relations," Mr. Kelly said, "but also, and equally as important, because it exemplifies the kind of thinking which assures the success of these programs. Supplee bases its relationships with employees on one simple maxim — respect for the dignity of the individual."

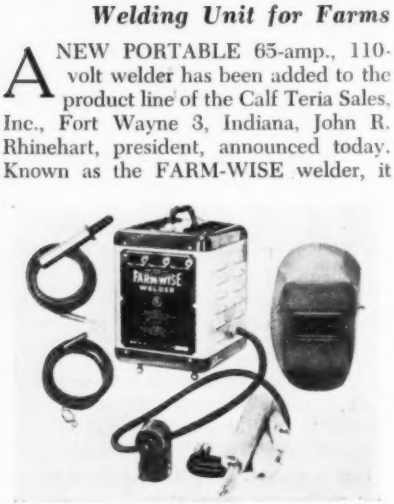
The award was accepted for the company by its president, Clifford E. Frishmuth, who told the gathering of more than 300 civic, labor and industrial leaders that employee morale is high "only when employees are doing the kind of work they like best, when they have equal opportunities to qualify for advancement, and when it is clear that promotions are not lost by mere whim or favoritism."

Supplee is the fourth company to receive the award. Recipients in other years have been Atlantic Refining Co., Leeds & Northrup Co. and Warner Co.

USING OUR SEPARATOR • ITEMS OF INTEREST SKIMMED FROM HERE AND THERE

Welding Unit for Farms

A NEW PORTABLE 65-amp., 110-volt welder has been added to the product line of the Calf Teria Sales, Inc., Fort Wayne 3, Indiana, John R. Rhinehart, president, announced today. Known as the FARM-WISE welder, it



will be distributed exclusively to the farm market through the franchise dealer organization of Calf-Teria, Inc.

The FARM-WISE welder requires no adjustments and is easy to use on any kind of farm repair jobs.

Introduced to the farm trade to eliminate the costly repair bills wherever machinery is used, the FARM-WISE uses less than a kilowatt of electricity per hour. Mr. Rhinehart pointed out that instructions which come with each FARM-WISE welder tell how many repairs can be made by the most inexperienced operator in only a short time. The machine weighs 62 lbs. with accessories.

•

Booklet on Chemicals

THE STORY of the Chemicals You Live By" – a new, 16-page booklet concisely and clearly describing eight major groups of chemical products and depicting their diverse utilization throughout American industry—has just been issued by Diamond Alkali Company, Cleveland, Ohio.

Written in simple, nontechnical terms and attractively illustrated, this booklet reviews soda ash, caustic soda, chlorine, bicarbonate of soda, silicates, calcium carbonates, chromates, and specialty chemicals, pointing up the economic significance of each group.

Copies of this unusually interesting, informative "primer" on basic alkali chemicals, their derivative specialized materials, and their co-products are available free on request. Write to Diamond's nearest district sales office, or to its general headquarters, 300 Union Commerce Building, Cleveland 14, Ohio.

•

Fluorescent Tube Disposal

TO RESTRICT the hazards of fluorescent tube handling, the Standard Safety Equipment Co., Chicago 10, Ill., has developed a safe and economical Fluorescent Tube Disposal Unit. The two sources of danger—beryllium, a toxic chemical, and the broken glass—are controlled by collecting the glass fragments in a disposable container and washing away the poisonous chemical with a constant flow of water. This new unit is constructed entirely of steel, requires only one man operation, and destroys a tube in less than ten seconds.

A used fluorescent tube is inserted through a gravity door at the upper end of a 3" diameter, 4' length steel enclosure. At the lower end of the enclosure a rotating blade breaks and grinds the tubes and a steady flow of water rinses the broken glass and carries it into a porous cloth bag—the toxic powders are washed away and the glass fragments contained within the bag. When this expendable porous bag is full it is placed in a multiwall sack which is inscribed, "Danger Broken Fluorescent Tubes." With the porous bag within the multiwall sack, workers and handlers are protected because the sack resists glass penetration.

For the complete details of price, operation, and shipment, descriptive literature may be obtained from the Standard Safety Equipment Co., 232 W. Ontario St., Chicago 10, Ill.

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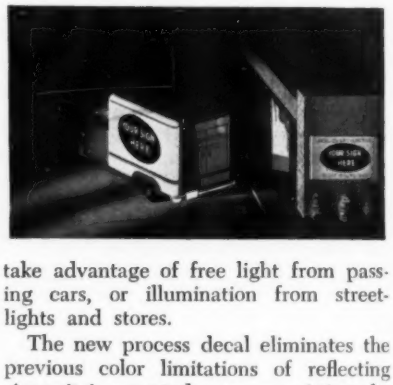
New Reflector Sign

A NEW REFLECTOR decal in brilliant full color half-tones, as well as simpler designs and lettering, to give truck identification panels a double life for night as well as daytime selling, is announced by the Meyercord Co., Chicago 44, Ill.

The reflection characteristic offers truck fleet owners a completed sign to



take advantage of free light from passing cars, or illumination from streetlights and stores.

The new process decal eliminates the previous color limitations of reflecting signs, it is reported, now permitting the reproduction of trademarks, pictorials, or lettering—for truck "ads on wheels" in their original daylight colors.

For samples and further information on this new reflector decal, write Dept.

AN EFFECTIVE BUSINESS BUILDER
A Useful X'mas Gift
MAGIC CREAM SIPHONS for home use, remove cream from bottled milk to use with coffee, cereals and desserts.
PLEASE OLD CUSTOMERS — WIN NEW ONES
Leading dairy firms find Magic Cream Siphons a welcome sale booster aid. Homes using a cream siphon consume more milk when they learn how many foods are improved by the liberal use of milk instead of water in preparing.
Free sample for round or square bottles
Glass $15.00 per gross or $100.00 per 1000
Aluminum $17.50 per gross or $115.00 per 1000
Complete Satisfaction Guaranteed
MERIT MANUFACTURING COMPANY
3455 EAST 150TH STREET CLEVELAND 20, OHIO

RC-7. The Meyercord Co., 5323 W. Lake Street, Chicago 44, Ill.

•

Portable Wash Sink

WASHING of sanitary fittings and parts of milk products plant equipment is simplified by using the stainless steel wash sink now being manufactured by Engelke Engineering, Inc., 320 Grant St., Hartford, Wis. The two compartment sink has

loop drain hoses, which eliminate the necessity of drain valves, and thus avoid the inevitable contamination from this source. The lower tray is for draining and drying the washed parts and fittings. The sink is interchangeable with the top tray of the parts and fittings dolly also made by Engelke.

Size is 24″ x 48″ x 30″ high. Made of 12 gauge stainless steel, the sinks and trays will not get battered out of shape by heavy loads of fittings and parts. The sink may be placed over a floor drain, so that the entire load can be washed, rinsed and drained without mess. Two-wheel brakes permit positioning on floors that have slopes to drains. The frame is of all-welded stainless steel tubing, with welds ground and polished. The five-inch, semi-soft wheeled, swivel-type casters will not bend, turn over or rust tight.

Announce Nickel Alloy

A NEW NICKEL ALLOY has been announced by the Waukesha Foundry Company of Waukesha, Wisconsin. Unlike the majority of nickel alloys, it contains no copper and is also free of iron.

Special properties are its high resistance to corrosion, good machinability, and freedom from any tendency to seize or gall when used in moving contact with itself or other metals including the stainless steels.

This metal is available in cast form only and is designated as "Waukesha Metal" Alloy No. 23. The new alloy does not require heat treatment, and in the as-cast condition has a tensile strength of 50,000 to 60,000 pounds per square inch, an elongation of 7-10%, and a brinell hardness of 145-165 (3000 kg. load).

A United States patent No. 2,482,382 has recently been issued covering this alloy.

•

Steam Cleaning Machine

THE Clayton Manufacturing Company of El Monte announces the new all-purpose Model "C" Kerrick Kleaner which combines soap, water, heat and friction to clean all types of industrial and automotive equipment.

Delivering 90 gallons per hour of correctly balanced cleaning solution, this compact machine reaches operating pressure of from 60 to 90 pounds within three minutes after the toggle switch is flicked on. The Model "C" Kerrick Kleaner, fully automatic and simple to operate, incorporates many of the features formerly built only into the higher priced steam cleaners. It has the Kerrick soap-saver, which meters the proper amount of concentrated solution into the water supply line, and the automatic fuel cut-off, which protects against damage by water failure.

Requirements for installation of the new Model C are the availability of normal city water supply and a 110-volt, 50 or 60-cycle single phase electrical connection. Model C is available in two types; oil-fired portable model and the gas-fired stationary. The oil-fired machine has a pressure atomizer burner and electric ignition. The machine is delivered complete with an insulated swivel-handle cleaning gun, nozzle and 25-feet of tested heat-resistant cleaning hose.

•

Irregular Shaped Tanks

IN ORDER to cope with the ever prevalent problem of space limitation, Chicago Stainless have designed irregular shaped tanks to meet this problem.

A recent requirement necessitated construction of a rectangular shaped tank to make the most of available space. The design represents a saving of 13½′ over the conventional round type. The outstanding features of this tank are the

wall construction, designed to prevent bulging and breathing regardless of weight of product. The bottom has a

Kurly Kate
METAL SPONGES
Designed especially for cleaning all types of dairy equipment and utensils. Will not rust or splinter, cut the hands or injure metal or plated surfaces. Kurly Kate Metal Sponges are fast working, easy to use, and easy to keep clean. Made in STAINLESS STEEL, NICKEL SILVER and BRONZE.
KURLY KATE CORPORATION
2215 S. MICHIGAN AVE. CHICAGO 16, ILL.
GUARANTEE
Send for a trial order
Satisfaction fully guaranteed
Kurly Kate
stainless metal sponge
FOR EASIER INDUSTRIAL CLEANING
SOFT ON HANDS
SANITARY
ORDER FROM YOUR JOBBER OR WRITE DIRECT

pitch of 2″ to insure complete drainage. Tank is fully enclosed and of similar design as the round tank.

The storage tank illustrated is of 2,000 gallon capacity. The overall dimensions are 11′3½″ long, 4′9½″ wide and 10′1″ high. The inner shell is of No. 12 gauge 18-8 stainless steel with 2″ corkboard insulation and outer shell of No. 10 gauge steel sheeting. Agitator can be mounted either vertically or horizontally and is fully removable. (Model shown has vertical agitator.) The manhole cover, outlets, etc., are of standard design. All inside radii are 2″ minimum and meet with all sanitary standards.

For information regarding this design write to Chicago Stainless Equipment Corporation, 5001 Elston Avenue, Chicago 30, Illinois.

●

Dry Steam Generator

A PORTABLE UNIT for generating steam electrically is now available. An ingeniously designed boiler permits of quick generating unusually dry steam. Unit is completely automatic as to pressures and water level control. Unit permits of clean odorless steam generating. The compact unit requires about 4 square feet of floor space, being 4 feet long and a little over 1 foot wide; the height is 34 inches and weight 380 lbs., shipped completely equipped requiring only water hose and electric hook up.

Also available are these steam generating units adapted to cleaning with detergent tanks, hose, nozzle, etc. Amounts of steam, water, and detergent are separately controlled to accommodate varying cleaning requirements. CINCINNATI METALCRAFTS, INC.

●

Fireye Programming Control

COMBUSTION Control Corporation introduces Fireye Programming Control Type 24PJ8. This is designed to provide automatic starting and programming for commercial and industrial oil and gas burning equipment. Type 24PJ8 consists of power supply, programming timer, and relays housed in a dust-tight steel case.

Fireye Programming Control automatically starts the burner in operation and programs the sequence of fuel-valve opening, post-ignition timing, priming, and scavenging. It is used with Electronic Flame Rod Type 45JQ1 or Photoelectric Scanner Type 45PH5 for continuously safeguarding gas or oil burner installations respectively against the danger of flame failure.

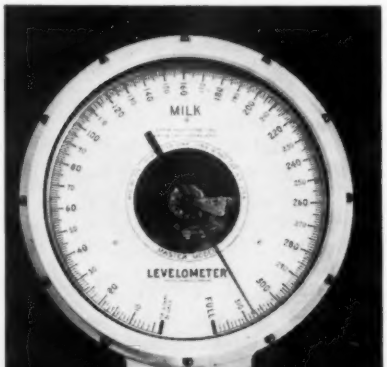
Send for Bulletin No. CD-4751.

●

Milk Tank Gauge

A SIMPLE DIAL type hydrostatic gauge built to meet the requirements of the milk industry has been developed by the Liquidmeter Corporation, Long Island City, New York. Contents of a tank equipped with this gauge may be determined at a glance.

The gauge is described as a remote reading dial type bellows actuated hydrostatic instrument. It is a dial type not



requiring any indicating fluid. The dial can be graduated in terms of gallons, pounds, feet and inches, or any other unit. It is equipped with a built-in valve by which the operator can quickly check the pointer's zero position. Two or more indicators can be mounted at different locations and connected to one air bell to indicate the contents of a tank.

Additional information and prices can be obtained by writing the Liquidometer Corporation 36-01 Skillman Ave., Long Island City 1, N. Y.

●

Safety Carboy Tilter

A CARBOY TILTER incorporating a number of practical safety features has been announced by the Thompbeen developed by the Liquidometer Corsylvania.

Designed for fast, safe, and easy pouring of acids from any size carboy, the tilter is supported by structural steel members with welded and riveted construction.

A positive clamping mechanism holds the carboy through repeated pourings. A safety rachet holds the carboy in tilted position just above the flow line eliminating the necessity of returning the container to an upright position. An extra length handle provides a means for tilting the carboy accurately. A pouring spout made of acid-resistant rubber gives a smooth flow of acid.

The Thompson Manufacturing Co. also produces the Thompson Pneumatic pump.

●

Instrument Course

THE Fischer & Porter Company announces that its next instrumentation course will be held at the Hatboro, Pennsylvania plant, January 23 through 27, 1950.

This course will cover manufacture, calibration, installation, operation and maintenance of primary and secondary process control instruments. Users of the company's line of FLOWRATOR instruments will find the course particularly valuable.

Further details can be obtained by writing to the Fischer & Porter Company, East County Line Road, Hatboro, Pennsylvania.

Better DRY MILK AT LOWER COST

• • •

DRY MILK MACHINES
Built in Five Sizes

The Patented, glass-smooth, "20-year cylinders" give years and years of maximum production of a superior dry milk at the lowest possible cost.

Many other exclusive features insure long life with low steam and power costs. Complete details upon request.

OVERTON MACHINE COMPANY
DOWAGIAC MICHIGAN

WANTED DAIRIES

To bottle and distribute the famous

AIRLINE PRUNE JUICE

from pure concentrate, under franchise arrangements. Our plan calls for NO ADDITIONAL EQUIPMENT ON YOUR PART. Several highly desirable territories available. Write for complete details.

M. S. Jennings
Airline Foods Corporation
1130 ELIZABETH AVE. W., LINDEN, N. J.

Industrial Thermometer Data

COMPLETE data on liquid-in-glass industrial thermometers is presented in an easy-to-use tabular and sectionalized form in the new Bulletin "E" published by the Precision Thermometer and Instrument Company, Philadelphia 30, Pa.

Graphic pages illustrate all basic models, sizes, forms, and attachments with simplified application data to enable the user to select the proper thermometer for any industrial installation. Bulletin "E" has been designed as an all-in-one complete reference guide incorporating all necessary information for both engineering and purchasing departments. Copies are available upon request to the Precision Thermometer and Instrument Co., 1599 Brandywine Street, Philadelphia 30, Pa.

●

Moderate Size Spray Dryer

BOWEN ENGINEERING, INC. announces the addition of a new spray drying unit for moderate production and pilot plant operation with a production rate of two to seven tons per day.

The new unit will be known as the Number 2 Spray Dryer. It is extremely compact, occupying a floor space only 10 x 15′; overall headroom 23′. The entire dryer design is developed with a view to reduced field erection. The drying chamber is shipped as an assembled unit, while structural steel framework is sectionally shop welded and requires bolting in but six sections.

Special emphasis has been placed on the development of this spray dryer to meet the requirements of the purchaser with a limited budget. It has all the main elements of high tonnage spray dryers, consisting essentially of a heater, drying chamber with high speed spray machine, collection system and fan, in compact arrangement. The equipment is instrument-equipped for simplified semi-automatic operation. It contains recording instruments for inlet and outlet temperatures as well as controls for over temperature and inlet temperature. Heat sensitive materials can be "shock cooled" by admitting cooling air thru patented Bowen side air inlets.

●

Combustion Safeguard

THE Wheelco Instruments Company, Chicago, announces the 1300 Series Flame-otrol Combustion Safeguard for industrial and commercial fuel fired furnaces, ovens, boilers, kilns and other heating equipment.

This new Flame-otrol uses the flame itself as the "Electronic Link" in a simple electronic circuit to provide instantaneous switching action. It is capable of detecting the presence or absence of a gas or oil flame of any type of burner eliminating the need for costly, specially designed equipment.

It is approved by both Underwriters' Laboratories and Associated Factory Mutual Laboratories. The 1300 series has many improved features, such as guaranteed safe-start and interchangeable plug-in units for increased program variety, for both manual or automatic ignition applications, easily adjustable to a wide selection of purge, preventilating and ignition program cycle combinations.

The new Wheelco 1300 Flame-otrols provide a complete selfchecking cycle of operation from safe-start to safe-shut-off for any type of gas or oil fired heating equipment.

●

Less B. F. Loss

THE EXTREMELY high B. F. losses experienced by practically all dairies may now profit by an 80% and more reduction. Even with strong arm stirring it has been impossible to obtain an accurate sample for B. F. tests. The Lathrop-Paulson Company, 2459 W. 48th St., Chicago, after months of experimental tests in many plants have produced blender attachment for the oblong L-P dump cans that shows reduction of B. F. loss. One dairy reported "losses of 800 lbs." reduced to only 40 lbs. It doesn't take long for the savings to absorb the small cost of the blender and installation. Information from manufacturer will be mailed on request.

●

New Roach-Proofer

WAR-TIME DISCOVERIES again result in offering to the general public chemicals which eliminate many health hazards by the control of disease carrying insects.

The cockroach which has invaded human privacy and contaminated and spoiled millions of dollars worth of food stuffs since the Dark Ages should soon be on its way to complete extermination. Laboratory and field tests on a new chemical with the usual jaw-breaking name OCTACHLORO-4, 7-METHANO-TETRAHYDROINDANE, which has proven phenomenal in controlling a wide range of insects affecting man and beast have been completed by Government Chemical Products Corporation who now offer this new formula under the trade name of RESIDOO-68.

So successful is this chemical against the common cockroach that infestations of many years standing have been completely eliminated in less than eight weeks.

RESIDOO-68 (OCTACHLORO-4, 7-METHANO - TETRAHYDROINDANE) in both liquid and powder form combines properties so that "kill" is obtained both by contact and by the residue left upon drying of the chemical. The almost invisible film insures constant destruction of those insects crawling over such treated surfaces for a period up to FIFTY DAYS AFTER APPLICATION.

RESIDOO-68 is described in a folder offered by the manufacturers entitled "RESIDOO-68 – THE ROACH-PROOFER" and may be obtained by writing Government Chemical Products Corporation, Dept. AMR, 2000 West 14th Street, Cleveland 13, Ohio.

AS we close the books on this our 36th year of corporate existence, we wish to thank the dairymen who have distributed Milk Drinks during 1949 Flavored with

Quality Flavor Forbes CHOCOLATE

With renewed Faith, Hope and a courageous determination, let us work together for a NEW YEAR of Peace and Prosperity for all Men of Good Will.

THE BENJAMIN P. FORBES COMPANY
2000 West 14th Street Cleveland 13, Ohio

Here's the NEW and BETTER WAY!

To Handle Your
COMPOSITE MILK SAMPLES
With the
Compo-Cooler
Refrigerated and Insulated

Successful Milk Plant Managers in every section of the country have bought and are using **Compo-Cooler** Sample Bottle Cabinets.

One of the many reasons is that **Compo-Cooler** handles your composite milk samples rapidly and at a big saving of time and labor.

Compo-Cooler gives you complete electric refrigeration. All cabinets are lifetime stainless steel throughout with a capacity, style and size to fit your particular plants need.

FREE Write today for illustrated booklet and complete details.

COMPO-COOLER COMPANY
GLENS FALLS, I NEW YORK

WANTS and FOR SALES

Classified Advertising Rates

(Remittance MUST Accompany Order)

Position Wanted

50 word maximum, 50c — 2c for each additional word.

All Other Advertisements

Lightface type: 5c per word ($1.00 minimum).
Boldface type: 10c per word ($2.00 minimum)
(The name and address should be included in counting the words)

Keyed Address

25c additional in the United States.
50c additional in Foreign Countries.

When replying to any of the following keyed advertisements please address replies to:

BOX NO..... AMERICAN MILK REVIEW

92 WARREN STREET NEW YORK 7, N. Y.

(The deadline for Classified Advertising is the 10th of the month preceding publication.)

No classified advertising will be accepted to run with borders or special spacing. All such advertisements are considered "Display" advertising and will be billed at regular display advertising rates. (Rates and mechanical requirements on request.)

EQUIPMENT FOR SALE

FOR SALE — At our Warehouse and Shop we have a good selection of Pasteurizers, Coolers, Bottle Washers, Bottle Fillers, Can Washers, Storage Tanks, Heaters, Separators, Weigh Cans, Filters, Ice Cream Freezers, Homogenizers, Vacuum Pans, Pumps, etc. Save money by considering good Used and Reconditioned equipment. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y. Telephone — MUrray Hill 2-4616. 12-M

FOR SALE—Cherry-Burrell 6 wide soaker type bottle washer 5 years old. In good condition. Will sacrifice for quick sale. Available immediately. Replacing with larger washer. Meadow Brook Dairy, Buffalo Road at Harrison, Erie, Penn. 12-M

FOR SALE—Sweden Ice Cream Freezers, complete with condensing units, 4-20 quart capacity, brand new in crates, very low in prices. Interstate Appliance Co. Inc., 600 Broadway, N. Y. 12, N. Y. 12-M-3

FOR SALE — Rogers Stainless Steel Vacuum Deodorizer which could also be converted for use as a Condensing Pan; 5000 lb. Cherry-Burrell Junior Vacreator. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y. 12-M

REBUILT — Pasteurizers, Milk Coolers, Bottle Fillers, Ice Machines, Plate Coolers and Heaters, Homogenizers and Bottle Washers. Send us your requirements. Ohio Creamery Supply Company, 701 Woodland Ave., Cleveland 15, Ohio. 12-M-t.f.

FOR SALE — 1 Cherry-Burrell Stainless Steel 20 valve nu-line filler. 1 - 12 can per minute Wright & McKinley 1942 straightaway can washer. Elmhurst Cream Co., Inc., 154—21 South Road, Jamaica 4, N. Y. 12-M-t.f.

FOR SALE — Mechanical Cow units, consisting of homogenizer, cooler, 6 quart Taylor Freezer ice cream head, unit. This unit will make milk, cream, or ice cream mix. Formerly sold for $1750.00, now only $1075.00. Brand new, crated F.O.B., N.Y. Interstate Appliance Co. Inc., 600 Broadway, N. Y. 12, N. Y. 12-M-3

FOR SALE — Viscolizers and homogenizers. Completely rebuilt and guaranteed. With standard or late type stainless sanitary heads and pressure valves. Bulletin and prices upon request. Write Otto Biefeld Co., Watertown, Wisconsin. 12-M

EQUIPMENT FOR SALE

SPECIAL OFFERINGS—1000 gallon Cherry-Burrell Horizontal Coil Vats, stainless steel linings and tinned copper coils; 100 to 300 gallon Stainless Steel Pasteurizers; 6000 lb. Kaestner Internal Tubular Heater, s.s. tubes; 2000 and 3000 gallon Pfaudler Glass Lined Storage Tanks for by-products only; 600 and 800 gallon Cherry-Burrell Viscolizers, s.s. heads; About 200 ft. Power Can Conveyor, also 50 ft. Power Case Conveyor with Booster and Power Units. Lester Kehoe Machinery Corporation, 1 East 42nd Street, New York 17, N. Y. 12-M

FOR SALE — 1 New, never used, Iron Fireman 24PS Pneumatic spreader stoker with all controls; 1 New Mojonnier tubular heat exchanger — Model 96-5. Stainless steel jacket — capacity 22,000 lb./skim/hr. 45°-178° F.—96-15/16 I.D. tubes—5 ft. long. Includes panel board, instruments, valves, etc.; 1 Model V-40 Ste-Vac heater—stainless steel—40,000 lb./hr.—40°-160° F. Complete with pump, relief valve, gauges, etc.; 1 Union Steam Pump viscolizer—450 g.p.h.—stainless steel sanitary head—enclosed frame —with 20 HP. motor; 1 6 ft. Rogers copper vacuum pan—4000 lb./hr. and Byers barometric condenser — two 750-gal. hotwells. Wyeth Incorporated, R. O. Phillips, Mason, Mich. 12-M

FOR SALE — Good used bottle washers, can washers, cheese vats, churns, coolers, bottle fillers, heaters, hooders, ice machines, double drum milk dryers, pasteurizers, pumps, scales, separators, tanks, testers, vacuum pans, receiving vats and weigh cans. Late typed list mailed on receipt of advice as to your needs. Write Otto Biefeld Co., Watertown, Wisconsin. 12-M

FOR SALE — Bobtail soda fountains 5' and 6' complete with pumps and jars, brand new in crates, $350.00 and $395.00, F.O.B. New York Interstate Appliance Co. Inc., 600 Broadway, N. Y. 12, N. Y. 12-M-3

FOR SALE — 2M wood cases for round bottles in Metro New York—Best offer takes same. Write Box 245, care this publication. 12-M

FOR SALE — Girton 3 compartment bottle washer. Washes quarts, pints, half-pints and half-gallons, $500. Write U. V. X. Dairy, Cottonwood, Arizona. 12-M-2

EQUIPMENT FOR SALE

FOR SALE — Mojonnier stainless steel, 12 Spout Vacuum Filler and Capper, reconditioned and guaranteed; Model 90RH for one-half pints, pints, quarts and one-half gallons. Will handle up to 90 bottles per minute. Complete with vacuum pump; inlet and outlet conveyor with stands and stainless steel covers; and stainless steel accumulating table with separate drive. PRICED LOW $1,400.00, F.O.B. Chicago. Also Sanitary Fittings and Sanitary Pumps. The Filter Paper Company, 2460 S. Michigan Ave., Chicago 16, Illinois. 12-M

FOR SALE — 1000 gallon Heil stainless steel milk tank — on 1948 K-7 International. In perfect condition. 12-M

FOR SALE — One 12-wide C. P. Bottle Washer in A-1 condition. One 1500 gallon C. P. Homogenizer, practically new. One K 20 Gracac Filler all stainless steel, ten months old, used only seven months, cost new with extra cappers and parts $7900. will sacrifice for $5200. Three 200 gallon Pfaudler Glassline Pasteurizers. Two 25B Waukesha Pumps. Write Box 243, care this publication. 12-M

FOR SALE—4-wide Soaker Type Sturdy-Built Junior Washer. Handle round or square bottles. A-1 condition. Never used after factory rebuilt. Price $700 F.O.B. Kalamazoo, Michigan. Write Carringer's Dairy, 610-J St., LaPorte, Indiana. 12-M

FOR SALE — Public sale of creamery equipment on Dec. 9, 1949 at 250 E. Walnut Street, Nazareth, Pennsylvania, at 12:30 P.M. 1 200 gallon Pfaudler glass lined vat pasteurizer complete with motor and recording thermometer. 1 100 gallon glass lined pasteurizer. 1 No Foam milk pump. 1 No. 30 De Leval separator with motor. 1 B&W milk heater. 1 Purity can washer (rotary), 3 cans per minute. 1 Ladd combined can and bottle washer Blue Line Jr. 1 Baker 5 ton ice machine, twin cylinders, 4½ x 4½, with motor. 1 25 hp O&S Scotch Marine Boiler. 1 Blower thermostat control for forced draft. 1 2 compartment wash sink made of boiler steel. 1 Lafayette Butter Printer and table. 2 5 hp electric motors. 1 2 hp electric motor. 1 9 ft. surface cooler 16 tubes copper water tubes and 6 steel tubes covered with German Silver, direct expansion, and many other articles to sell. John D. Edleman, 250, E. Walnut Street, Nazareth, Pennsylvania.

REPAIR SERVICE

THERMOMETERS—We repair Mercurial Indicating Thermometers, dial thermometers and recording thermometers of all makes. Instruments are reconditioned like new. Satisfaction guaranteed. For economical savings ship your thermometers to Nurnberg Thermometer Co., 124 Livingston St., Brooklyn, New York. 12-M-t.f.

HELP WANTED

WANTED — Creamery man wanted, experienced for large plant in Pennsylvania. State age, full experience, salary desired. Write Box 244, care this publication. 12-M

WANTED — Man between 25 and 35 for milk route supervisor position. Man selected must be able to employ and train both wholesale and retail milk, ice cream route salesmen. Please give full details and references in first letter. Write Box 242, care of this publication. 12-M

HELP WANTED — For central New Jersey — an experienced creamery foreman to run plant bottling 2000 quarts plus by-products. Good salary to first class man. State experience and salary desired. Write Box 235, care this publication. 12-M

SITUATION WANTED

ASSISTANT TREASURER-CONTROLLER. Proven results applying latest cost reduction methods in bottling industry. Twenty years experience solving important management problems, reports of vital facts, inventory and payroll control, budgets, systems, audit and tax work. Highly recommended by foremost bottler. Will relocate. Write Box 247, care this publication. 12-M

BUSINESS OPPORTUNITY

FOR SALE—CREAMERY—ICE CREAM PLANT manufacturing 200,000 pounds butter year; sell wholesale; three late model trucks; thousand pound churn; forty quart freezer; modern equipped large storage and hardening room; attractive retail ice cream, dairy store; opportunity expand same owner 17 years; Indiana city, prices reasonable. Write APPLE COMPANY, BROKERS, Cleveland, Ohio. 12-M

WANTED — Independent operator of several dairy businesses will purchase substantial well established dairy with successful earnings record. Will furnish capital to acquire interest of one desiring to retire or to effect consolidation with another company to increase volume and profits, with retention of present key personnel. Am not a broker. All information held strictly confidential. Satisfactory if contact made through third party. Address Box 226, care this publication. 12-M

FOR SALE—Milk plant—Raw receiving station in Pennsylvania. Approved for Newark and State of New Jersey. Modern building erected in 1947. For particulars write Box 246, care this publication. 12-M-1

FOR SALE—Modern Grade A Dairy and Ice Cream Plant. 5 stores in connection. Nebraska town, population over 100,000. Sales last year $120,000.00. Must quit. Sacrifice $25,000.00 down, balance 10 years. Total price $60,000.00, including plant real estate. Write Box 241, care this publication. 12-M

SALESMEN WANTED — Excellent opportunity for salesmen now calling on milk, butter and cheese plants to sell vats, neutralizer, intensifier, coagulator, vitamins, etc., in established territory. Very liberal commissions and sales help will be given. Interview will be arranged. Good opportunity for the future. State territory actively covered. Write Box 240 in care of this publication. 12-M

FOR SALE — Complete equipment for small dairy in good running condition $3,500. O'Brien's Dairy, Canton, Mass. 12-M

MISCELLANEOUS

COAL — Pennsylvania, West Virginia and Ohio. Carload Coal Corp., 55 West 42nd St., New York 18, N. Y. 12-M-t.f.

MISCELLANEOUS

FOR SALE—Orange-Ade Base made from fresh oranges. Nothing to add but water, $1.35 per No. 10 tin. Bradway Chocolate Company, New Castle, Indiana. 12-M-t.f.

FOR SALE — Chocolate Powder and Chocolate Syrup for making Non-Settling Chocolate Milk. Your trial order will receive our prompt attention. Bradway Chocolate Company, New Castle, Indiana. 12-M-t.f.

FOR SALE — Truck lettering and trade mark decals, made for your truck and store advertising. Easy to apply; uniform, distinctive, economical for small or large needs. Write for catalog. Mathews Co., 827 So. Harvey, Oak Park, Illinois. 12-M-3

FOR SALE — Divco Floor Mats $7.25 per set, f.o.b. Buffalo. Satisfaction guaranteed, state year, Iroquois Mat Co., Swan Street, Buffalo 10, N. Y. 12-M

OF EVENTS TO COME

Western States Dairy Conference — Annual convention will be held December 1-2-3, at the Cosmopolitan Hotel, Denver, Colorado. Reservations and information may be obtained from Ammon Bradshaw, Colo. Dairy Products Assn., 415 C of C Bldg., Denver 2, Colo.

Wisconsin Milk Dealers' Association — Annual convention will be held at the Schroeder Hotel in Milwaukee, December 6-8. Secretary, Harry Klueter, 1 W. Main St., Madison, Wis.

Minnesota Milk Council—Annual convention will be held at the Duluth Hotel, Duluth, Minn., November 28-30. Secretary, Dan T. Carlson, Willmar, Minn.

Kansas Ice Cream and Milk Institute—Annual convention will be held at the Jayhawk Hotel, Topeka, Kans., December 5 and 6. Secretary, Dale M. Bryant, 1004 Brown Bldg., Wichita, Kans.

Nebraska Milk Dealers Association—Third annual convention will be held at the Hotel Paxton, Omaha, Neb., December 8 and 9. Secretary, Robert W. McGinnis, 845 Nye Ave., Fremont, Neb.

Illinois Dairy Products Association—Annual convention will be held at the Morrison Hotel, Chicago, Ill., December 12 to 14. Secretary, M. G. Van Buskirk, 309 W. Jackson Blvd., Chicago 6, Ill.

Louisiana Dairy Products Association—Annual convention will be held at the Jung Hotel, New Orleans, La., January 8 to 10. Secretary, Lewis Torrance, The Borden Co., Baton Rouge, La.

North Carolina Dairy Products Association — Annual convention will be held at the Hotel Sir Walter, Raleigh, N. C., January 12 and 13. Executive Vice-President, L. L. Ray, P. O. Box 2687, Raleigh, N. C.

Indiana Dairy Products Association — Annual convention will be held at the Claypool Hotel in Indianapolis, Ind., January 16 to 18. Secretary, R. A. Larson, 623-24 Board of Trade Bldg., Indianapolis 4, Ind.

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Auburn Dairy Products Association—Annual meeting will be held January 20 and 21, at the Jefferson Davis Hotel, Montgomery, Ala. Secretary, Prof. A. D. Burke, Box 509, Auburn, Ala.

Kansas Butter Institute—Annual meeting will be held at the Allis Hotel, Wichita, Kans., January 23 and 24. Executive secretary W. H. Martin, West Waters Hall, Manhattan, Kans.

Georgia Dairy Association—Fourteenth annual convention will be held at the General Oglethorpe Hotel, Savannah, Ga., January 26 and 27. Executive director, James E. Jackson, 414 Hurt Bldg., Atlanta, Ga.

Michigan Allied Dairy Association—Sixty-sixth annual convention will be held at the Hotel Pantlind, Grand Rapids, Mich., February 14-16. Secretary, L. N. Francke, 2010 Olds Tower Bldg., Lansing, Mich.

Pennsylvania Association of Milk Dealers — Eighteenth annual convention will be held at the Penn-Harris Hotel, Harrisburg, February 20 and 21. Executive vice-president, Benj. G. Eynon, 324 Telegraph Bldg., Harrisburg.

West Virginia Dairy Products Association—Annual convention will be held at the Greenbrier, White Sulphur Springs, W. Va., August 7 and 8. Secretary, Prof. S. J. Weese, Dairy Department, University of West Virginia, Morgantown.

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NDC Loads for Bear

Membership Drive Gets Underway with Widespread Support from Industry — State Chairmen Named

Chicago, Ill.—Forty-three leading executives in the dairy industry in states from coast to coast are busy this month selling memberships in the National Dairy Council in connection with its annual drive for funds to promote more sales and profits for the dairy industry.

Serving as State Chairmen of the Membership Campaign, these men volunteered their services to add greater impact to NDC's Annual Membership drive. In the highly competitive food market, these leaders in the dairy industry know that NDC's continuous sales education campaign wields tremendous influence in shaping the food habits of the American family

The names of the State Chairmen follow by states:

Alabama, V. J Troutman, Tro-Fe Dairy Company, Gadsden; Arkansas, James S. Beckman, Beckman Dairy Company, Fort Smith; California, S. C. Hookstratt, General Dairy Industry Committee of Southern California, Los Angeles; Colorado, True C. Adams, IXL Creamery Co., Colorado Springs; Connecticut, A. C. Fisher, Hartford; Delaware, Joseph Morrow, Fraim's Dairies, Wilmington.

Washington, D. C., J. R. Parks, Green Springs Dairy, Baltimore, Maryland; Florida, A. R. Neilsen, Alfar Creamery Co., West Palm Beach; Georgia, J. R. Kinne, Kinnett Dairies, Inc., Columbus; Idaho, Grant Dougall, Idaho Creameries, Boise; Illinois, A. R. Buehring, DeKalb Dairy Co., DeKalb; Indiana, J. Duane Dungan, Polk Sanitary Milk Co., Indianapolis; Iowa, Iver C. Erickson, Anderson-Erickson Dairy Co., Des Moines; Kansas, O. A. Olson, O. H. Olson & Son's Dairy Co., Kansas City; Kentucky, C. O. Ewing, II, Oscar Ewing, Inc., Louisville.

Louisiana, George H. Kinmon, Foremost Dairies, Inc., Shreveport; Maine, Edward B. Denny, Jr., Round Top Dairy, Inc., Damariscotta; Maryland, J. R. Parks, Green Springs Dairy, Baltimore; Massachusetts, Albert W. Smith, United Dairy System, Springfield; Michigan, G. Dewey McDonald, Heatherwood Farms, Lansing; Minnesota, C. S. Knudtsen, Bridgeman-Russell Co., Duluth.

Mississippi, J. W. Reaves, Blue Ribbon Creamery, Jackson; Missouri, Frank J. Wood, Country Club Dairy, Kansas City; Montana, John I. King, Gallatin Co-op Creamery, Bozeman; Nevada, Charles W. Brooks, Model Dairy, Reno; New Hampshire, Rupert D. Kimball, Producer's Dairy, Inc., Nashau; New Mexico, Ed Howie, Valley Gold Dairies, Inc., Albuquerque; New York City, Edward O. Mather, Dellwood Dairy, Inc., Yonkers; New York State, C. C. Brown, The Netherland Company, Inc., Syracuse.

North Carolina, C. H. Williard, Lindale Dairy Corp., High Point; Ohio, H. F. Reiter, The Reiter Dairy Co., Akron; Oklahoma, Don A. Hoover, South Side Dairy, Oklahoma City; Oregon, Lyle W. Hammack, Raven Creamery, Portland; Pennsylvania, Daniel S. Adams, St. Lawrence Dairy Co., Reading; South Carolina, F. S. Hanckel, Coburg Dairy, Charleston.

South Dakota, Don G. Warren, Gold Medal Dairy Products, Huron; Tennessee, Raymond Skinner, Forest Hill Dairy, Memphis; Texas, Lindsley Waters, Tennessee Dairies, Inc., Dallas; Vermont, A. C. Alfred, Ethan Allen Creamery, Essex Junction; Virginia, W. C. Miller, Garst Bros. Dairy, Roanoke; Washington, H. C. Weber, Carnation Co., Seattle; West Virginia, J. B. Davis, United Dairy Co., Wheeling; Wisconsin, Duane Bowman, Bowman Farm Dairy, Madison; Wyoming, V. S. Christensen Plains Dairy System, Cheyenne.

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We like the democratic way of observing Christmas...
We like the labor it brings and the generosity identified with it...
We like the round of reunions with our family and friends...
We like the anticipation of our children and making their dreams come true...
We like our way of celebrating Christmas — the democratic way...
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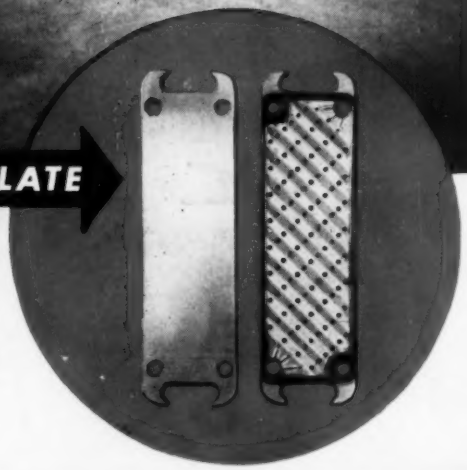

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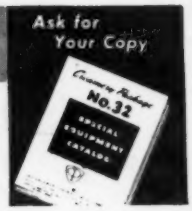

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